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A PROFESSIONAL MANPOWER BULLETIN

# ENGINEERING AND SCIENTIFIC MANPOWER RESOURCES IN CANADA

Their Employment, Earnings and  
Salary Rates, 1960 - 61

BULLETIN No. 10

JUNE 1961

ECONOMICS AND RESEARCH BRANCH  
DEPARTMENT OF LABOUR  
OTTAWA





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**ENGINEERING and SCIENTIFIC MANPOWER RESOURCES  
in Canada:**

**Their Employment,  
Earnings, and Salary Rates, 1960-61**

**Professional Manpower Bulletin No. 10**

**ECONOMICS AND RESEARCH BRANCH  
DEPARTMENT OF LABOUR, OTTAWA  
June, 1961**

**Hon. Michael Starr  
Minister**

**George V. Haythorne  
Deputy Minister**





## FOREWORD

*This is the tenth in the Professional Manpower Series of bulletins and the third presenting statistics on employment and income of engineers and scientists. Two previous bulletins, No.'s 7 and 9 in the series, contain similar information for the years 1957 and 1959 respectively. All three reports have been based on a sample survey of individuals conducted annually by the federal Department of Labour since 1957.*


*It should be noted that the employment figures given in this report relate only to 1961 survey respondents. They are not estimates of the total population of engineers and scientists in Canada. As well, this is essentially a statistical report, unlike the previous two which contained analyses.*

*A preliminary release of some of the major findings of the survey was published in May 1961 and distributed to those on the survey mailing list.*

*The Economics and Research Branch wishes to acknowledge with thanks the assistance of the engineers and scientists who replied to the survey and the co-operation received from the various professional engineering and scientific associations.*

*This bulletin was prepared in the Manpower Resources Division of the Economics and Research Branch under the supervision of Mr. A.W. Cowan and the direction of Mr. J.P. Francis. The accompanying text was written by Mr. R.B. Heatley.*

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## CONTENTS

	<u>Page</u>
INTRODUCTION .....	1
SCOPE AND METHOD.....	3
PART 1 – ENGINEERING.....	9
PART 2 – SCIENCE.....	37







## INTRODUCTION

The growth of industries based on an increasingly complex technology, supported by expanding research and development activities, has created a critical need for men and women with professional training in a wide variety of scientific and technical specializations. The ability of a country's educational system to produce such manpower, and of industry to employ them effectively are, therefore, of crucial significance and continuing concern.

This report presents information on the character of scientific and engineering manpower resources in Canada. The data show how these resources are employed throughout the economy, give some indication of the ways in which they are being used, show the types and amounts of education which they have obtained, and indicate their patterns of earnings. The information, therefore, helps to provide a basis for assessing the kinds of manpower resources available in Canada in these fields and the ways in which they are being utilized. The source of the data is an annual survey undertaken by the Canadian Department of Labour. This report presents the results of the 1960-61 survey.

The information is based on a sample survey of professional personnel enrolled in the Register of Scientific and Technical Personnel which is maintained by the federal Department of Labour. As part of a continuing survey program, inaugurated in 1957, one-third of the total Register is surveyed every year. The data thus obtained are representative of the total register, although the figures shown in the report refer only to those who completed the survey questionnaire in 1960-61.

This report is divided into two parts, one dealing with engineers and the other with scientists. In each part, the charts and tables are arranged under three main headings, employment, earnings and salary rates.

The statistics shown are organized according to three sets of criteria: undergraduate course, level of education (bachelor or post-graduate degree) and year of bachelor graduation. Broadly speaking, these criteria reflect respectively the kind of formal training, the amount of formal training and the amount of experience the respondents have had. It is for these classes of respondents that variations in their employment characteristics, earnings and salary rates are shown.

The employment characteristics studied consist of the 1960 employment status of respondents in the labour force, the industries in which they worked, their region of employment and their work functions. In the sections on earnings, median earnings of respondents are shown by these employment characteristics. A similar presentation is made of median salary rates with the exception of "employment status" which does not apply.

The appendix table gives the total count of the scientific and technical personnel register maintained by the Department of Labour, Ottawa, from which the representative one-third sample was drawn for the 1960-61 survey.





## SCOPE AND METHOD

The sample on which the mailing list of the survey is based is representative of all groups in the Register. These include (a) university graduates in recognized courses in engineering, natural science, and veterinary medicine and (b) non-graduate members of professional associations, most of whom have passed qualifying examinations. Register coverage is further restricted to persons who are either Canadian citizens or non-Canadians working in Canada.

Although all classes of Register personnel were surveyed, not all of them were included in this report. It was not possible to include professionally-qualified non-graduates, as a field of specialization was not available for all respondents in this category. Data for veterinary doctors or for those not in the labour force are not shown in any of the tabulations and information for Canadians working outside Canada appears in only two tables.

The procedure for selecting the sample consisted of dividing the universe of Register personnel into three equal parts so stratified that each part or "cycle" was representative of the whole. Stratification was by university, undergraduate course and year of bachelor's degree. Subsequent additions to the universe were assigned to one of these three cycles. Each year since 1957 questionnaires have been sent to personnel in one of the cycles, so that the universe is covered in a three-year period. The one-third sample for the present survey is composed of the professionals assigned to Cycle Number Two.

Survey forms were mailed out during the last week of December 1960, to a total of 24,397 individuals. Two follow-ups were sent to non-respondents, one at the end of January and the other at the end of February.

The cut-off date for inclusion of information in the report was March 23, 1961.<sup>1</sup> At this date, 18,083 out of a total of 24,397 or 74 per cent of the questionnaires mailed were returned. Another 6 per cent could not be contacted leaving 20 per cent who did not respond. How these response rates compare with the results of the previous two cycle surveys is shown below:

### Response Rates of Survey Operations in 1958, 1959 and 1960

	<u>1958</u>	<u>1959</u>	<u>1960-61</u>
(a) Total mailed survey	24,887	22,782	24,397
(b) Not located by postal authorities	3,134	1,689	1,351
(c) Delivered by postal authorities (a-b)	21,753	21,093	23,046
(d) No response	4,665	4,102	4,963
(e) Replies received	17,088	16,991	18,083
1. Per cent response of total mailed c/a	69	75	74
2. Per cent not contacted b/a	12	7	6
3. Per cent non-response d/a	19	18	20

<sup>1</sup>The time taken from the date of the first mailing to this cut-off date was less than three months. This represents a decrease of one month over the 1959 survey.



Of the 18,083 questionnaires received, 2,854 were omitted from the tables which form the body of the report. These include, in addition to the Register personnel previously mentioned, students, housewives, non-Canadians working outside Canada, Canadians working outside Canada or the United States, respondents who had left the technical field, had retired or were deceased, those who provided insufficient information and a few others, who, for various reasons, fell beyond the scope of the study. The breakdown of these replies is shown as follows:

<b>Total replies received</b>	18,083
No degree	639
Veterinary doctors	345
Students	484
Housewives	152
Non-Canadians working outside Canada	332
Canadians working outside Canada and the United States	151
Non-technical personnel	162
Retired	351
Deceased	130
Insufficient information	53
Others removed	55
<b>Total replies covered in report</b>	15,229

Thus this report covers 15,229 professionals in every branch of engineering and most fields of science. Of these, 470 are Canadians working in the United States and are included in a few of the tables. However, the majority of the tables are based on the remaining 14,759 professionals working in Canada. Of this total, engineers comprise 65 per cent, while scientists account for the rest. The heaviest concentration of engineers is in the fields of civil, mechanical and electrical engineering. The greatest numbers of scientists are found in agriculture, chemistry and general science. The distribution of these scientific and technical personnel by their field of academic specialization can be seen in the following breakdown.

<b>Total replies covered in report</b>	15,229
<b>Canadians working the United States</b>	470 <sup>1</sup>
<b>Working in Canada</b>	14,759

<u>Engineering</u>		<u>Science</u>	
Aeronautical .....	59	Agriculture .....	1,633
Chemical.....	1,240	Biology .....	223
Civil .....	2,508	Chemistry .....	817
Electrical .....	2,027	Forestry .....	487
Engineering Physics .....	224	General Science .....	808
Geological.....	148	Geology.....	338
Mechanical .....	2,108	Mathematics .....	114
Metallurgical .....	252	Mathematics and physics .....	319
Mining .....	578	Physics .....	144
Petroleum .....	85	Other Sciences .....	225
Other Engineering .....	422		
 Total Engineering .....	 9,651	 Total Science.....	 5,108

<sup>1</sup> Of the 470, 271 are Engineers and 199 Scientists.

The terms "engineer" and "scientist" throughout the report, refer entirely to the undergraduate course in which the respondent specialized. Engineers are graduates in courses which are recognized by the Canadian Council of Professional Engineers. Scientists are graduates in the regular honour science courses (including mathematics), general science, agriculture, forestry and geography.

The term "function" refers to a list of ten broad areas of work duties specified on the questionnaire. From these, the respondent selected his principal function, on the basis of his own evaluation.

A similar evaluation was made with respect to the "field of employment specialization". A comprehensive classification of the products, processes and fields of knowledge in which engineers and scientists most likely work was provided each respondent from which the appropriate selection was made. In this connection, the fields of Chemistry and Chemical Engineering were revised for the 1961 classification sheet by the Chemical Institute of Canada.

"Earnings" statistics are based on annual professional income (including salaries, commissions and bonuses) during the 1960 calendar year of respondents working full-time for a period of ten months or over. More specifically they are "median earnings", "first quartile earnings" and "third quartile earnings". The median was used because the frequency distributions of earnings were skewed towards the high values. (For such an asymmetrical distribution, the median, rather than the mode or arithmetic mean is the more meaningful average).

Median earnings represent the middle value in the series. For example, if the median earnings are \$7,000, this means that half of the respondents earn more than this amount; half earn less.

As the concentration of earnings is measured by the median, so the dispersion of earnings is measured by the difference between the first quartile earnings and the third quartile earnings. This difference is known as the interquartile range and within this range, earnings of the middle 50 per cent of the respondents fall. The bottom 25 per cent of the respondents earn less than the first quartile earnings; while the top 25 per cent earn more than the third quartile earnings.

A question on "salary rates" was introduced into the survey for the first time in 1961. Statistics shown on salaries are based on the annual salary rates at January 1961 of respondents who were paid on a salary basis only. The statistics exclude respondents who were paid commissions in addition to their salaries or who were self-employed.

In drawing conclusions from the statistics presented here, it should be kept in mind that the results do not relate to the complete universe of scientific and technical personnel, but to a one-third sample of the professionals who fulfill certain prescribed criteria.

The degree to which the results accurately reflect the characteristics of this universe is influenced by several factors, particularly the size of

the sampling error and the extent to which the characteristics of non-respondents differ from those of the respondents. In this latter connection, it should be noted that from a special study undertaken to assess this bias, the conclusion reached was that "in view of the statistical procedures followed in the survey, the absence of the non-response group in the survey tabulations did not appreciably affect the validity of the data."<sup>1</sup>

Finally, a large number of factors have been examined in the tables and the resulting breakdowns have, in some cases, produced very low totals. For this reason, it is recommended that the reader study mainly the overall patterns which emerge.

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<sup>1</sup>Engineering and Manpower Resources in Canada, Professional Manpower Bulletin No. 9, Economics and Research Branch, Department of Labour, Ottawa, March 1961, p. 4.



**PART 1**

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**ENGINEERING**



## PART 1 – ENGINEERING

### A. – Charts

<u>Employment</u>	<u>Page</u>
Chart 1 – Work Function by Years from Bachelor Graduation, 1960	11
Chart 2 – Work Function by Level of Education, 1960 .....	12
<u>Earnings</u>	
Chart 3 – Earnings by Years from Bachelor Graduation by Employment Status, 1960 .....	13
Chart 4 – Earnings by Industry by Years from Bachelor Graduation, 1960 .....	13
<u>Salary Rates</u>	
Chart 5 – Salary Rates by Year of Bachelor Graduation, 1961 ....	14
Chart 6 – Salary Rates by Function by Year of Bachelor Graduation, 1961 .....	15

### B. – Tables

<u>Employment</u>	
Table 1 – Employment Status by Level of Education, 1960 .....	16
Table 2 – Undergraduate Course by Industry, 1960 .....	17
Table 3A- Industry by Years from Bachelor Graduation , 1960.....	18
Table 3B- Industry by Years from Bachelor Graduation , 1960.....	19
Table 4 – Industry by Level of Education and Years from Bachelor Graduation, 1960 .....	20
Table 5 – Region of Employment by Years from Bachelor Graduation, 1960 .....	21
Table 6 – Work Function by Years from Bachelor Graduation, 1960	22
Table 7 – Work Function by Level of Education, 1960 .....	23
<u>Earnings</u>	
Table 8 – Median and Quartile Annual Earnings by Level of Education and Years from Bachelor Graduation, 1960	24
Table 9 – Median Annual Earnings by Employment Status by Level of Education and Years from Bachelor Graduation, 1960 .....	25
Table 10 – Median Annual Earnings by Industry by Level of Education and Years from Bachelor Graduation, 1960	26
Table 11 – Median Annual Earnings by Region of Employment by Level of Education and Years from Bachelor Graduation, 1960 .....	27



PART 1 – ENGINEERING – (Concluded)

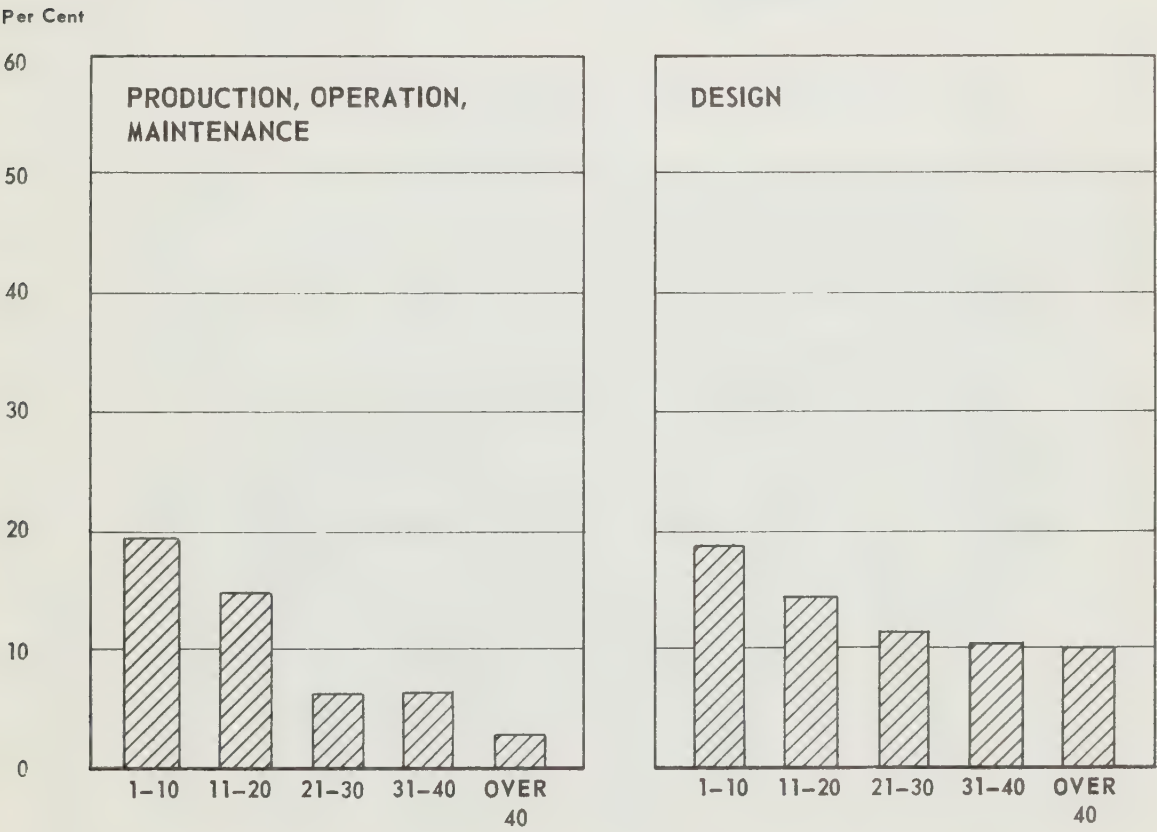
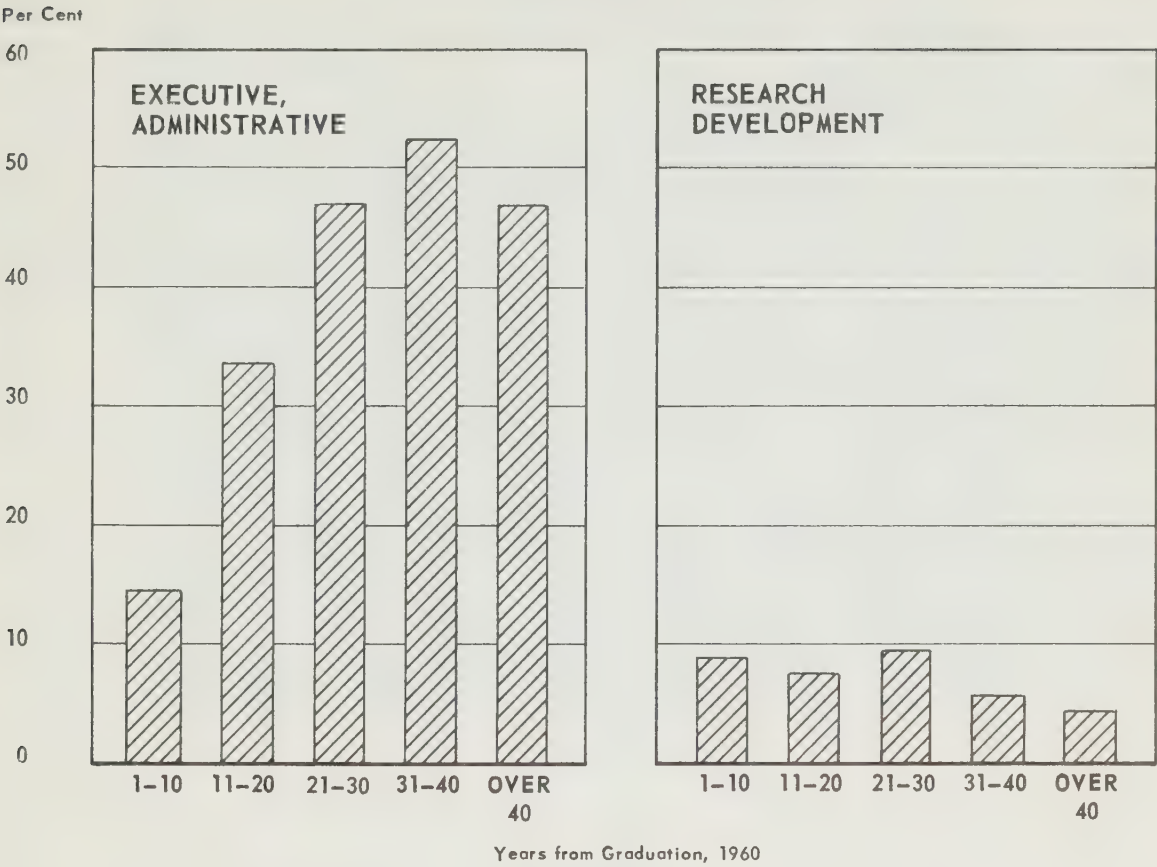
B. – Tables

<u>Earnings – (Concluded)</u>	<u>Page</u>
Table 12 – Median Annual Earnings by Undergraduate Course, Level of Education and Years from Bachelor Graduation, 1960 .....	28
Table 13 – Median Annual Earnings by Work Function by Level of Education and Years from Bachelor Graduation, 1960 .....	29
<u>Salary Rates</u>	
Table 14 – Median and Quartile Annual Salary Rates by Level of Education and Year of Bachelor Graduation, 1961 .....	30
Table 15 – Median Annual Salary Rates by Industry by Level of Education and Year of Bachelor Graduation, 1961 .....	31
Table 16 – Median Annual Salary Rates by Region of Employment by Level of Education and Year of Bachelor Graduation, 1961 .....	32
Table 17 – Median Annual Salary Rates by Undergraduate Course by Level of Education and Year of Bachelor Graduation, 1961 .....	33
Table 18 – Median Annual Salary Rates by Work Function by Level of Education and Year of Bachelor Graduation, 1961 .....	34

Chart 1

WORK FUNCTION BY YEARS  
FROM BACHELOR GRADUATION, 1960

ENGINEERS



Source - Table 6

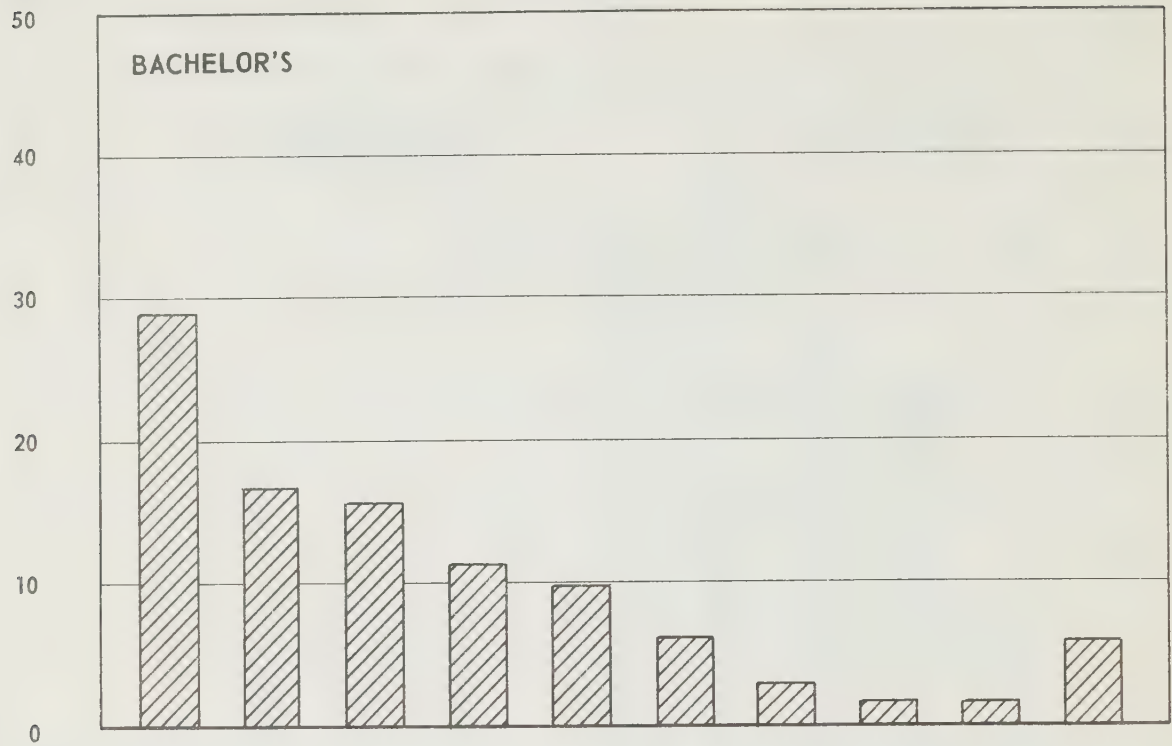
Years from Graduation, 1960

Chart 2

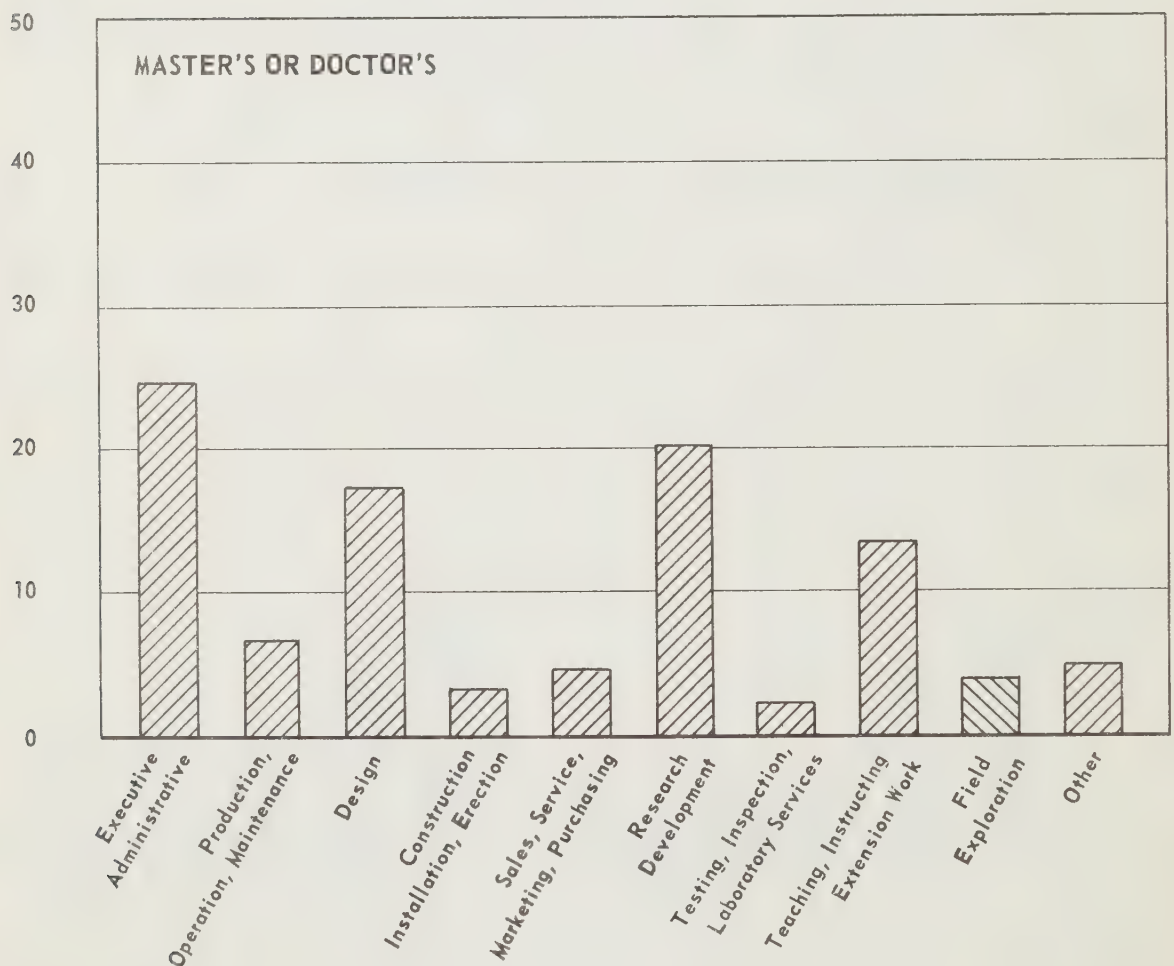
WORK FUNCTION BY LEVEL OF EDUCATION, 1960

ENGINEERS

Per Cent



Per Cent

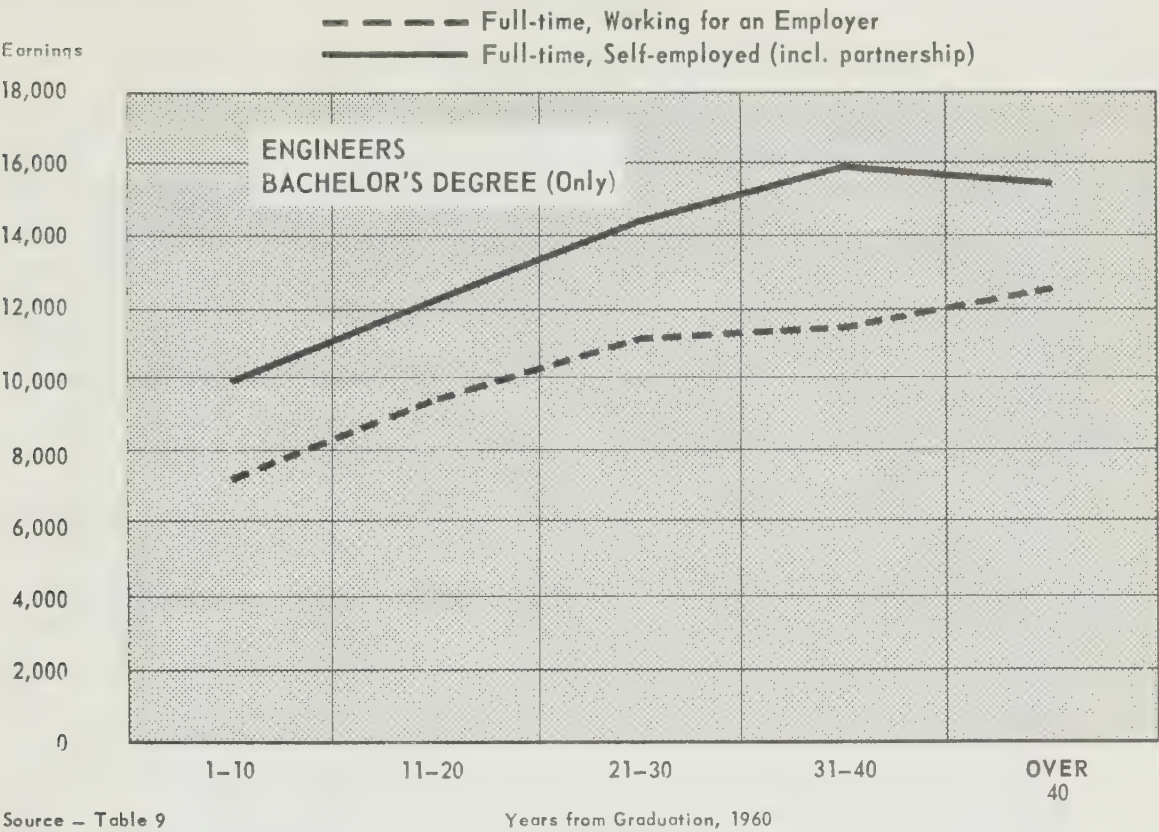


Source - Table 7



Chart 3

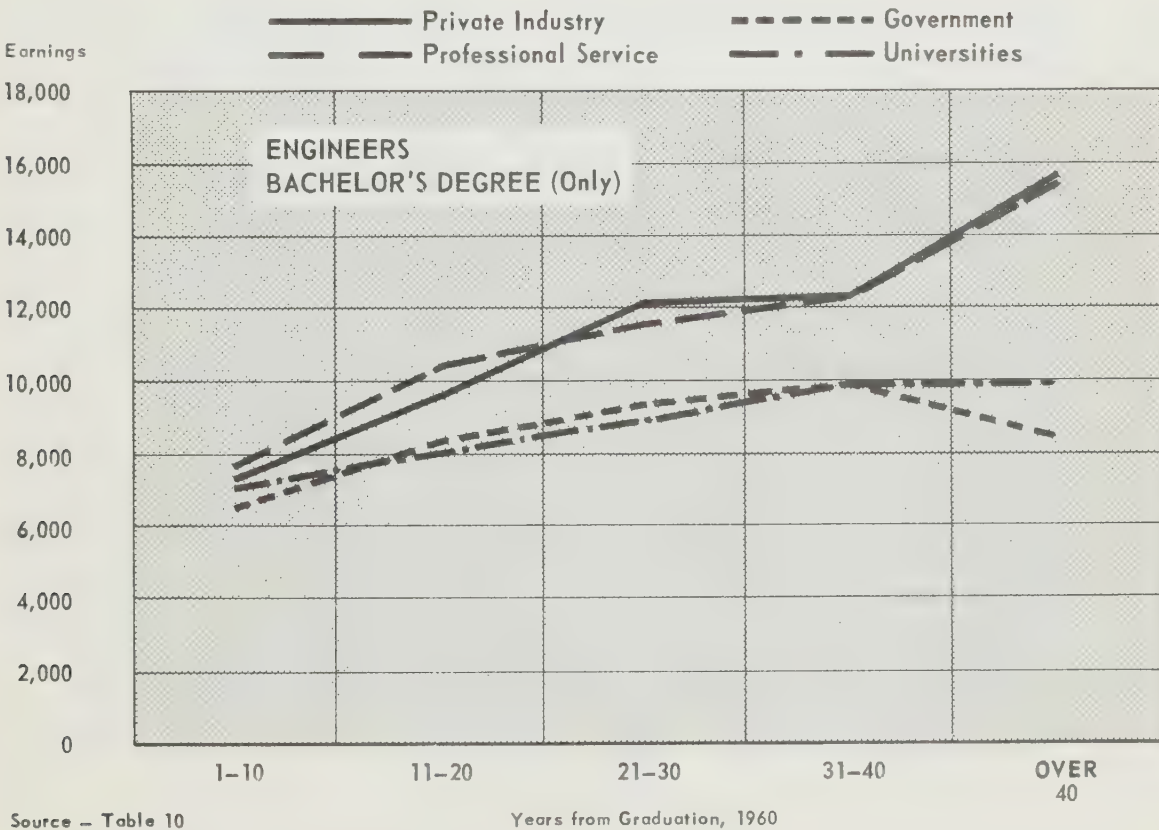
EARNINGS BY YEARS FROM BACHELOR GRADUATION  
BY EMPLOYMENT STATUS, 1960



Source - Table 9

Chart 4

EARNINGS BY INDUSTRY BY YEARS FROM BACHELOR GRADUATION, 1960

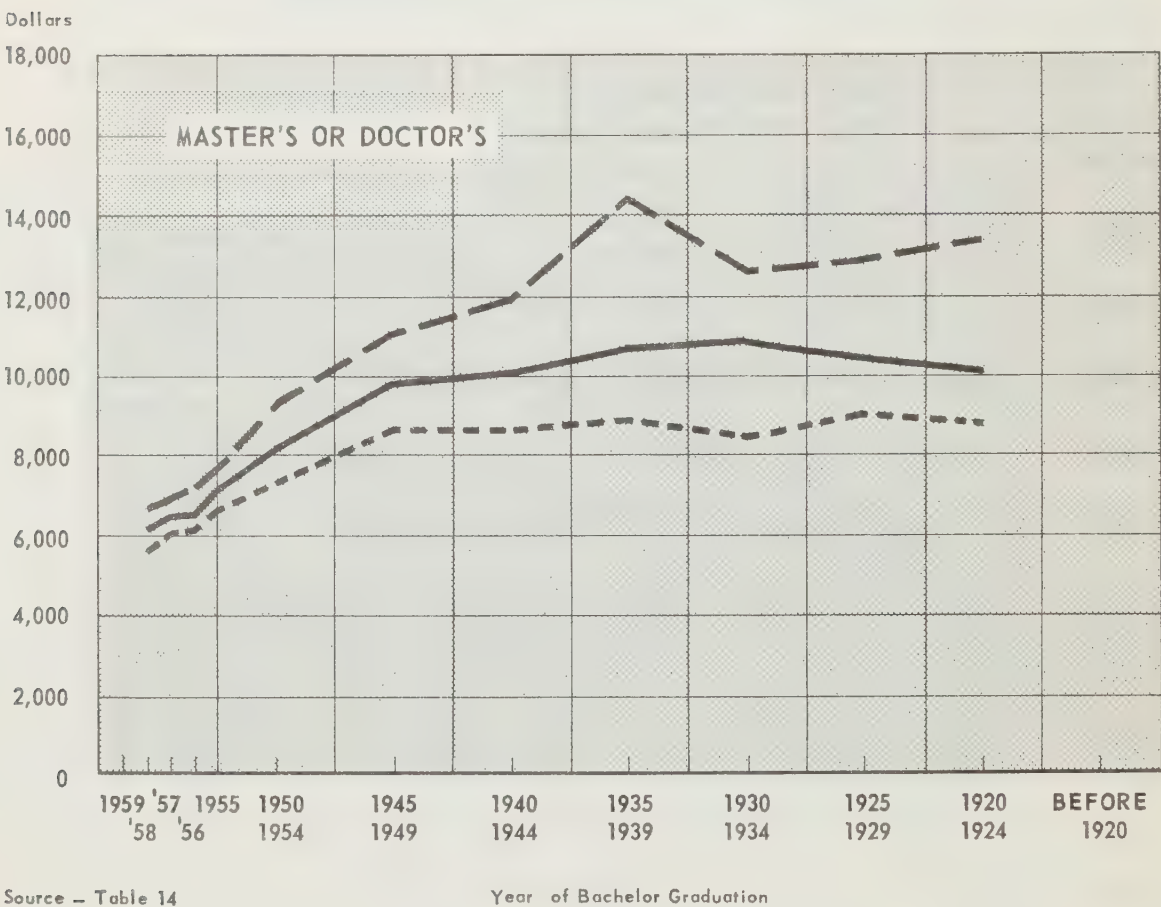
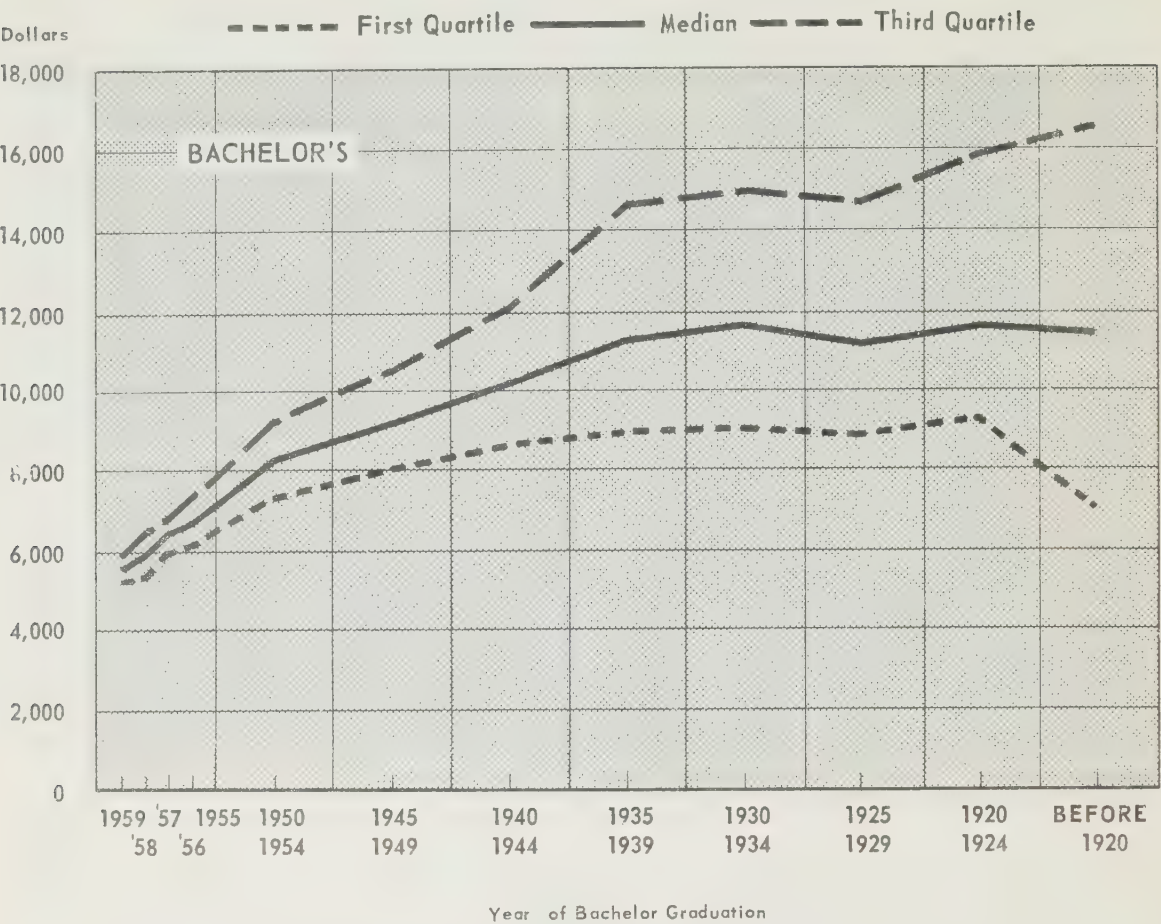


Source - Table 10

Chart 5

SALARY RATES BY YEAR OF BACHELOR GRADUATION,  
JANUARY 1961

ENGINEERS



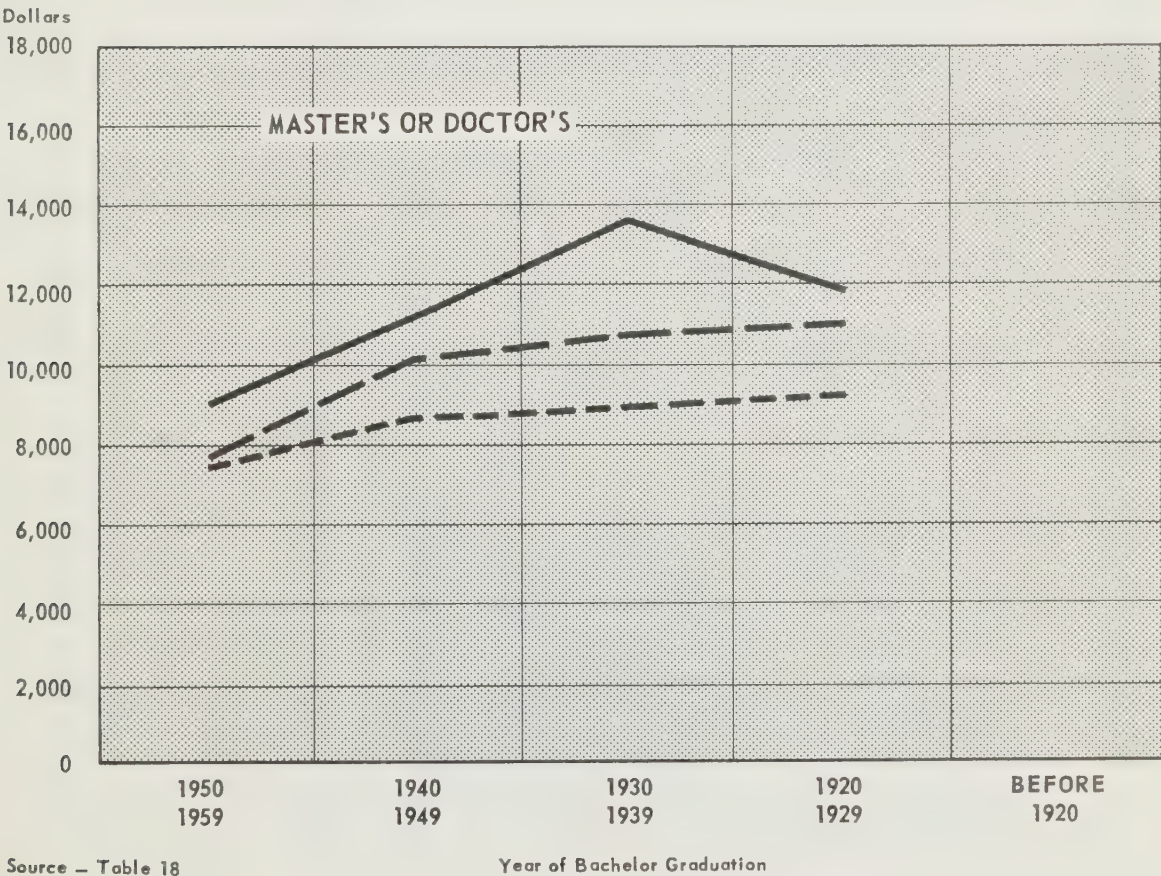
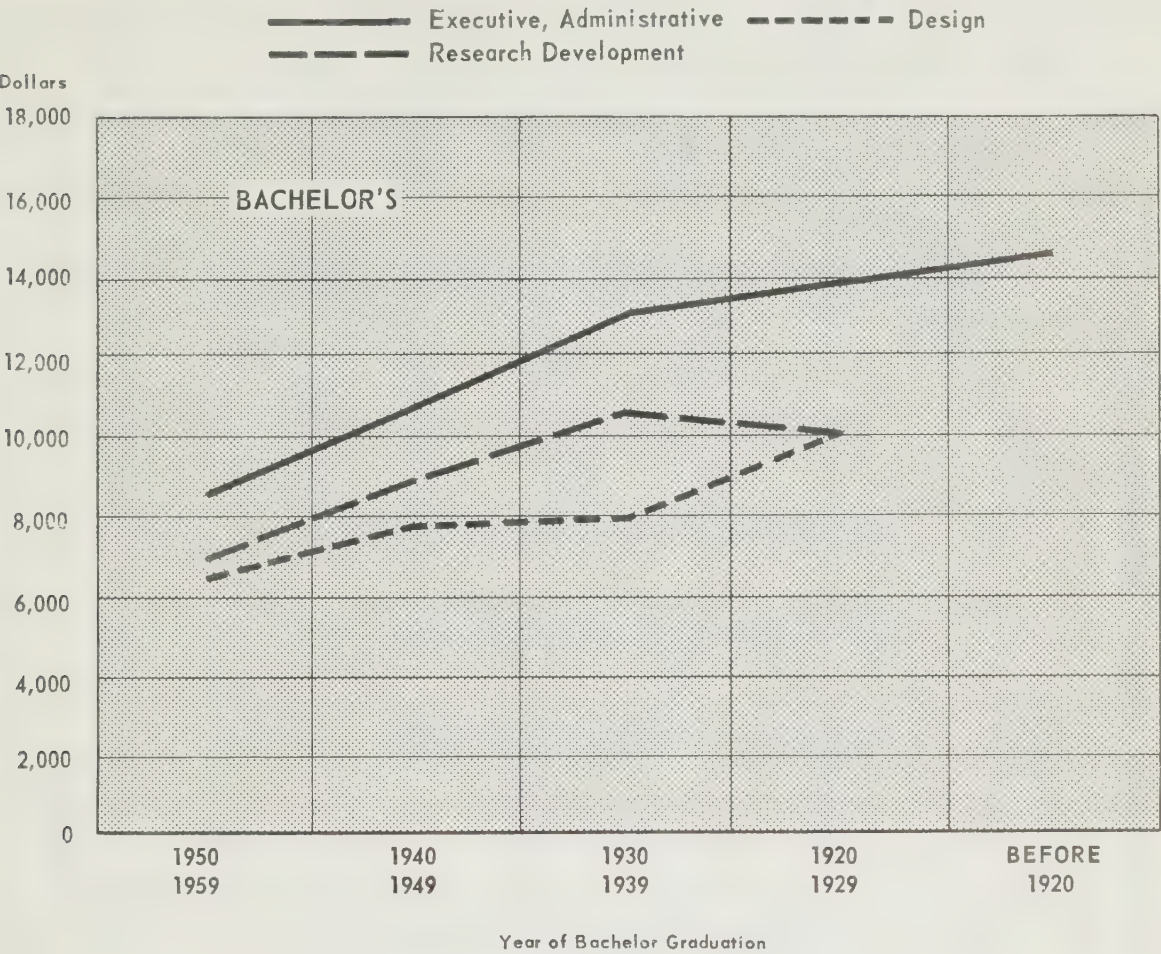
Source - Table 14



Chart 6

SALARY RATES BY FUNCTION BY YEAR OF BACHELOR GRADUATION,  
JANUARY 1961

ENGINEERS



Source - Table 18

Year of Bachelor Graduation



Table 1 -- Employment Status by Level of Education, 1960

ENGINEERS

Employment Status	Level of Education					
	Total		Bachelor's Degree		Master's or Doctor's Degree	
			No.	%	No.	%
Employed, Full-time .....	No.	%	No.	%	No.	%
	8,784	91.0	7,740	91.1	1,044	90.6
Employed, Part-time .....	71	0.7	58	0.7	13	1.1
Self-Employed, Full-time .....	734	7.6	650	7.6	84	7.3
Self-Employed, Part-time .....	35	0.4	27	0.3	8	0.7
Unemployed .....	27	0.3	23	0.3	4	0.3
<b>Total ..</b> .....	9,651	100.0	8,498	100.0	1,153	100.0

Table 2 - Undergraduate Course by Industry, 1960

INDUSTRY	Total		ENGINEERS											
	No.	%	UNDERGRADUATE COURSE											
			Aeronautical	Chemical	Civil	Electrical	Engineering Physics	Geological	Mechanical	Metallurgical	Mining	Petroleum	Other Engineering	
Primary Industry other than Mining .....	57	0.6	—	5	9	3	—	—	10	1	1	—	28	
Mining .....	588	6.1	—	54	36	30	9	70	40	38	273	35	3	
Manufacturing, Total .....	3,261	33.8	32	777	312	653	71	14	1,068	121	84	23	106	
Food, Beverages, Tobacco .....	95	1.0	1	37	10	7	—	—	33	2	2	—	3	
Rubber, Leather, Textiles, Clothing .....	146	1.5	1	79	8	9	1	—	43	1	1	—	3	
Wood Products .....	66	0.7	1	13	9	4	—	—	25	1	2	—	11	
Paper Products .....	309	3.2	—	82	39	46	—	—	121	2	2	1	16	
Iron and Steel Products .....	605	6.3	3	32	116	54	2	—	306	54	20	—	18	
Transportation Equipment .....	260	2.7	21	9	12	39	11	2	147	6	2	—	11	
Non-Ferrous Metal Products .....	160	1.6	—	39	15	19	3	1	36	27	17	—	3	
Electrical Apparatus .....	663	6.9	2	26	9	422	40	1	138	6	2	—	17	
Non-Metallic Mineral Products .....	128	1.3	—	32	28	11	3	3	29	3	16	—	3	
Products of Petroleum and Coal .....	277	2.9	1	116	36	13	4	6	62	1	13	22	3	
Chemical Products .....	461	4.8	1	283	26	22	4	1	94	14	5	—	11	
Printing, Publishing, Miscellaneous .....	91	0.9	1	29	4	7	3	—	34	4	2	—	7	
Construction .....	629	6.5	1	15	392	79	2	2	89	6	24	1	18	
Transportation, Storage and Communication .....	560	5.8	2	14	171	252	16	1	77	1	8	1	17	
Public Utilities .....	657	6.8	—	12	123	394	17	3	75	2	6	—	25	
Trade, Finance, Insurance, Real Estate .....	831	8.6	2	147	102	162	19	8	264	27	42	7	51	
Professional Service .....	1,123	11.7	4	68	525	148	25	14	203	23	52	7	54	
Universities .....	250	2.6	1	25	78	43	14	9	40	11	11	1	17	
Dominion Government (inc. Armed Forces) .....	794	8.2	14	59	242	191	44	15	151	15	32	1	30	
Municipal and Other Local Governments .....	263	2.7	—	5	196	18	—	1	16	3	11	—	13	
Provincial Governments .....	459	4.8	1	27	289	16	1	9	30	—	28	7	51	
Secondary Schools .....	80	0.8	2	18	11	19	2	1	22	2	1	—	2	
Other .....	21	0.2	—	2	3	6	2	—	5	—	1	—	2	
Not Stated .....	78	0.8	—	12	19	13	2	1	18	2	4	2	5	
Total .....	9,651	100.0	59	1,240	2,508	2,027	224	148	2,108	252	578	85	422	
% .....		100.0	0.6	12.9	26.0	21.0	2.3	1.5	21.8	2.6	6.0	0.9	4.4	

Table 3A – Industry by Years from Bachelor Graduation, 1960

ENGINEERS

Industry	Total	Years from Bachelor Graduation					Year Not Stated
		Over 40	31 – 40	21 – 30	11 – 20	1 – 10	
	No.	No.	No.	No.	No.	No.	No.
Primary Industries other than mining .....	57	1	3	9	18	26	—
Mining .....	588	6	52	128	169	233	—
Manufacturing, Total .....	3, 261	23	214	465	1, 019	1, 534	6
Food, Beverages, Tobacco .....	95	1	12	20	30	32	—
Rubber, Leather, Textiles, Clothing ..	146	2	13	20	45	66	—
Wood Products .....	66	—	3	13	26	24	—
Paper Products .....	309	4	20	53	93	138	1
Iron & Steel Products .....	605	8	39	109	184	262	3
Transportation Equipment .....	260	—	15	36	85	124	—
Non-Ferrous Metal Products .....	160	—	8	33	53	66	—
Electrical Apparatus .....	663	6	53	83	201	319	1
Non-Metallic Mineral Products .....	128	1	5	10	54	57	1
Products of Petroleum and Coal .....	277	—	7	29	85	156	—
Chemical Products .....	461	1	32	50	134	244	—
Printing, Publishing, Miscellaneous ..	91	—	7	9	29	46	—
Construction .....	629	6	31	82	192	317	1
Transportation, Storage and Communication	560	5	71	57	161	266	—
Public Utilities .....	657	3	69	87	206	289	3
Trade, Finance, Insurance, Real Estate ..	831	6	58	135	263	369	—
Professional Service .....	1, 123	19	81	146	337	535	5
Universities .....	250	10	32	34	73	101	—
Dominion Government (inc. Armed Forces)	794	1	46	105	246	395	1
Municipal and other Local Governments ..	263	7	26	31	72	126	1
Provincial Governments .....	459	11	38	72	96	240	2
Secondary Schools .....	80	—	14	13	20	33	—
Other .....	21	—	2	5	8	6	—
Not Stated .....	78	2	5	14	27	29	1
<b>Total .....</b>	<b>9, 651</b>	<b>100</b>	<b>742</b>	<b>1, 383</b>	<b>2, 907</b>	<b>4, 499</b>	<b>20</b>



**Table 3B -- Industry by Years from Bachelor Graduation, 1960**  
**ENGINEERS**

Industry	Total	Years from Bachelor Graduation					Year Not Stated
		Over 40	31 - 40	21 - 30	11 - 20	1 - 10	
	No.	%	%	%	%	%	%
Primary Industries other than mining .....	57	1.7	5.3	15.8	31.6	45.6	—
Mining .....	588	1.0	8.8	21.8	28.8	39.6	—
Manufacturing, Total .....	3,261	0.7	6.6	14.3	31.2	47.0	0.2
Food, Beverages, Tobacco .....	95	1.0	12.6	21.1	31.6	33.7	—
Rubber, Leather, Textiles, Clothing .....	146	1.4	8.9	13.7	30.8	45.2	—
Wood Products.....	66	—	4.5	19.7	39.4	36.4	—
Paper Products .....	309	1.3	6.5	17.1	30.1	44.7	0.3
Iron and Steel Products .....	605	1.3	6.5	18.0	30.4	43.3	0.5
Transportation Equipment .....	260	—	5.8	13.8	32.7	47.7	—
Non-Ferrous Metal Products .....	160	—	5.0	20.6	33.1	41.3	—
Electrical Apparatus .....	663	0.9	8.0	12.5	30.3	48.1	0.2
Non-Metallic Mineral Products.....	128	0.8	3.9	7.8	42.2	44.5	0.8
Products of Petroleum and Coal .....	277	—	2.5	10.5	30.7	56.3	—
Chemical Products.....	461	0.2	6.9	10.8	29.1	53.0	—
Printing, Publishing, Miscellaneous....	91	—	7.7	9.9	31.9	50.5	—
Construction.....	629	1.0	4.9	13.0	30.5	50.4	0.2
Transportation, Storage and Communication .....	560	0.9	12.7	10.2	28.7	47.5	—
Public Utilities .....	657	0.5	10.5	13.2	31.3	44.0	0.5
Trade, Finance, Insurance, Real Estate ....	831	0.7	7.0	16.2	31.7	44.4	—
Professional Service.....	1,123	1.7	7.2	13.0	30.0	47.6	0.5
Universities .....	250	4.0	12.8	13.6	29.2	40.4	—
Dominion Government(inc. Armed Forces)	794	0.1	5.8	13.2	31.0	49.8	0.1
Municipal and other Local Governments..	263	2.7	9.9	11.8	27.3	47.9	0.4
Provincial Governments .....	459	2.4	8.3	15.7	20.9	52.3	0.4
Secondary Schools.....	80	—	1.8	1.6	2.5	4.1	—
Other .....	21	—	0.9	2.4	3.8	2.9	—
Not Stated.....	78	2.6	6.4	17.9	34.6	37.2	1.3
<b>Total .....</b>	<b>9,651</b>	<b>1.1</b>	<b>7.7</b>	<b>14.3</b>	<b>30.1</b>	<b>46.6</b>	<b>0.2</b>

Table 4 — Industry by Level of Education and Years from Bachelor Graduation, 1960  
ENGINEERS

LEVEL OF EDUCATION AND INDUSTRY	Total		YEARS FROM BACHELOR GRADUATION													
			Over 40		31 — 40		21 — 30		11 — 20		1 — 10		Year Not Stated			
			No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
Bachelor's Degree																
Private Industry .....	6,039	100.0	46	0.8	457	7.6	845	14.0	1,846	30.6	2,834	46.9	11	0.1		
Professional Service .....	936	100.0	16	1.7	67	7.2	118	12.6	275	29.4	456	48.7	4	0.4		
Government .....	1,292	100.0	16	1.2	92	7.1	166	12.9	334	25.9	680	52.6	4	0.3		
Universities .....	94	100.0	7	7.5	13	13.8	10	10.6	22	23.4	42	44.7	—	—		
Secondary Schools .....	73	100.0	—	—	12	16.4	10	13.7	19	26.0	32	43.9	—	—		
Industry Not Stated .....	64	100.0	1	1.6	3	4.7	11	17.1	23	35.9	25	39.1	1	1.6		
Total .....	8,498	100.0	86	1.0	644	7.6	1,160	13.7	2,519	29.6	4,069	47.9	20	0.2		
Master's or Doctor's Degree																
Private Industry .....	565	100.0	3	0.5	43	7.6	123	21.8	190	33.6	206	36.5	—	—		
Professional Service .....	187	100.0	3	1.6	14	7.5	28	15.0	62	33.2	79	42.2	1	0.5		
Government .....	224	100.0	3	1.3	18	8.0	42	18.8	80	35.7	81	36.2	—	—		
Universities .....	156	100.0	3	1.9	19	12.2	24	15.4	51	32.7	59	37.8	—	—		
Secondary Schools .....	7	100.0	—	—	2	—	3	—	1	—	1	—	—	—		
Industry Not Stated .....	14	100.0	1	7.1	2	14.3	3	21.4	4	28.6	4	28.6	—	—		
Total .....	1,153	100.0	13	1.1	98	8.5	223	19.3	388	33.7	430	37.3	1	0.1		
Total, All Levels .....	9,651	100.0	99	1.0	742	7.7	1,383	14.4	2,907	30.1	4,499	46.6	21	0.2		

Table 5 – Region of Employment by Years from Bachelor Graduation, 1960

ENGINEERS

Region of Employment	Total		Years from Bachelor Graduation					Year Not Stated
			Over 40	31 – 40	21 – 30	11 – 20	1 – 10	
	No.	%	%	%	%	%	%	%
Atlantic .....	430	100.0	1.2	7.0	15.1	24.4	52.3	—
Quebec .....	2,413	100.0	1.2	9.2	14.3	27.5	47.6	0.2
Ontario .....	4,607	100.0	1.1	8.1	14.8	31.6	44.2	0.2
Prairies .....	1,320	100.0	0.5	3.3	11.2	30.1	54.9	—
Pacific .....	845	100.0	0.7	8.0	15.9	32.9	42.0	0.5
Region Not Stated .....	36	100.0	5.6	8.3	22.2	33.3	27.8	2.8
<b>Canada, Total .....</b>	<b>9,651</b>	<b>100.0</b>	<b>1.0</b>	<b>7.7</b>	<b>14.4</b>	<b>30.1</b>	<b>46.6</b>	<b>0.2</b>



Table 6— Work Function by Years from Bachelor Graduation, 1960

ENGINEERS

WORK FUNCTION	YEARS FROM BACHELOR GRADUATION													
	Total		Over 40		31 - 40		21 - 30		11 - 20		1 - 10		Year Not Stated	
No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Construction, Installation, Erection .....	981	10.2	10	10.0	45	6.1	64	4.6	233	8.0	636	13.0	3	15.0
Design .....	1,509	15.6	10	10.0	76	10.2	157	11.4	413	14.2	850	18.9	3	15.0
Executive, Administrative .....	2,736	28.4	47	47.0	389	52.4	651	47.1	977	33.6	664	14.8	8	40.0
Field Exploration .....	181	1.9	—	—	9	1.2	23	1.7	51	1.8	98	2.2	—	—
Production, Operation, Maintenance .....	1,482	15.4	3	3.0	47	6.3	132	9.5	434	14.9	864	19.2	2	10.0
Research, Development .....	743	7.7	4	4.0	39	5.3	85	6.1	218	7.5	395	8.8	2	10.0
Sales, Service, Marketing, Purchasing .....	887	9.2	3	3.0	37	5.0	111	8.0	285	9.8	450	10.0	1	5.0
Teaching, Instructing, Extension Work .....	320	3.3	8	8.0	40	5.4	46	3.3	93	3.2	133	2.9	—	—
Testing, Inspection, Laboratory Services .....	273	2.8	4	4.0	17	2.3	43	3.1	67	2.3	142	3.2	—	—
Other .....	448	4.6	9	9.0	31	4.2	51	3.7	109	3.8	248	5.5	—	—
Function Not Stated.....	91	0.9	2	2.0	12	1.6	20	1.5	27	0.9	29	0.6	1	5.0
Total .....	9,651	100.0	100	100.0	742	100.0	1,383	100.0	2,907	100.0	4,499	100.0	20	100.0

Table 7 — Work Function by Level of Education, 1960

ENGINEERS

Work Function	Total		Level of Education			
			Bachelor's Degree		Master's or Doctor's Degree	
	No.	%	No.	%	No.	%
Construction, Installation, Erection .....	981	10.2	945	11.1	36	3.1
Design .....	1,509	15.6	1,311	15.4	198	17.2
Executive, Administrative .....	2,736	28.4	2,456	28.9	280	24.3
Field Exploration .....	181	1.9	136	1.6	45	3.9
Production, Operation, Maintenance .....	1,482	15.4	1,408	16.6	74	6.4
Research, Development .....	743	7.7	511	6.0	232	20.1
Sales, Service, Marketing, Purchasing .....	887	9.2	834	9.8	53	4.6
Teaching, Instructing, Extension Work .....	320	3.3	165	2.0	155	13.4
Testing, Inspection, Laboratory Services .....	273	2.8	249	2.9	24	2.1
Other .....	448	4.6	401	4.7	47	4.1
Function Not Stated .....	91	0.9	82	1.0	9	0.8
<b>Total</b> .....	9,651	100.0	8,498	100.0	1,153	100.0

Table 8 – Median and Quartile Annual Earnings by Level of Education  
and Years from Bachelor Graduation, 1960  
ENGINEERS

Years from Bachelor Graduation	Total	Level of Education					
		BACHELOR'S DEGREE			MASTER'S OR DOCTOR'S DEGREE		
		First Quartile	Median	Third Quartile	First Quartile	Median	Third Quartile
		\$	\$	\$	\$	\$	\$
Over 40.....	71	8,550	12,750	20,050	—	—	—
36 – 40 .....	268	9,200	12,050	16,450	9,000	10,800	13,700
31 – 35.....	352	9,000	11,350	15,600	8,450	10,450	13,700
26 – 30.....	549	8,950	11,650	15,400	9,100	10,700	12,750
21 – 25.....	671	8,950	11,100	15,100	8,650	10,900	14,200
16 – 20.....	858	8,600	10,250	12,750	8,500	10,100	12,250
11 – 15.....	1,813	7,950	9,100	10,650	8,350	9,550	10,900
6 – 10.....	2,381	7,200	8,100	9,250	7,200	8,150	9,300
5.....	283	6,400	7,050	7,800	6,750	7,300	7,750
4.....	350	6,200	6,600	7,200	6,050	6,500	6,900
3.....	352	5,800	6,350	6,800	5,800	6,450	7,100
2.....	407	5,250	5,700	6,300	5,200	6,050	6,500
1.....	328	5,150	5,500	5,850	—	—	—
Year Not Stated	16	7,600	9,950	15,200	—	—	—
<b>Total.....</b>	<b>8,699(1)</b>	<b>6,900</b>	<b>8,450</b>	<b>10,600</b>	<b>7,550</b>	<b>9,050</b>	<b>11,050</b>

(1) Tables 8–13 do not include a total of 952 respondents, consisting of 106 working part-time; 27 unemployed; 305 working less than ten months and 514 who did not answer the earnings question.  
**Note:** Dashes are shown in the earnings and salary tables throughout the report where the number of respondents was less than 10.



Table 9 -- Median Annual Earnings by Employment Status by Level of Education  
and Years from Bachelor Graduation, 1960

ENGINEERS

Years from Bachelor Graduation	Level of Education and Employment Status					
	BACHELOR'S DEGREES		MASTER'S OR DOCTOR'S DEGREE			Self-employed Full-time
	Employed Full-time	Self-employed Full-time	Employed Full-time	Self-employed Full-time	Self-employed Full-time	
Total	No.	\$	\$	\$	\$	\$
Over 40 .....	71	13, 200	12, 550	15, 450	—	—
31 — 40 .....	620	11, 550	11, 450	15, 950	10, 350	—
21 — 30 .....	1, 220	11, 200	11, 050	14, 300	10, 650	15, 450
11 — 20 .....	2, 671	9, 450	9, 300	12, 250	9, 550	12, 800
1 — 10 .....	4, 101	7, 250	7, 150	9, 950	7, 600	10, 100
Year Not Stated .....	16	9, 950	8, 950	—	—	—
<b>Total .....</b>	<b>8, 699</b>	<b>8, 500</b>	<b>8, 300</b>	<b>12, 050</b>	<b>8, 900</b>	<b>12, 850</b>

**Table 10 — Median Annual Earnings by Industry by Level of Education  
and Years from Bachelor Graduation, 1960**

**ENGINEERS**

Level of Education and Industry	Total		Years From Bachelor Graduation					Year Not Stated
	No.	\$	Over 40	31 — 40	21 — 30	11 — 20	1 — 10	
Bachelor's Degree		\$	\$	\$	\$	\$	\$	\$
Private Industry .....	5, 527	8, 650	15, 700	12, 300	12, 150	9, 650	7, 300	—
Professional Service.....	810	8, 700	15, 450	12, 250	11, 550	10, 300	7, 700	—
Government .....	1, 180	7, 500	8, 450	9, 800	9, 350	8, 300	6, 550	—
Universities .....	72	7, 700	9, 950	9, 950	8, 950	8, 000	7, 100	—
Secondary Schools .....	60	6, 900	—	—	—	7, 050	5, 950	—
Industry Not Stated .....	44	8, 950	—	—	—	9, 300	8, 450	—
<b>Total.....</b>	<b>7, 693</b>	<b>8, 450</b>	<b>12, 750</b>	<b>11, 650</b>	<b>11, 350</b>	<b>9, 400</b>	<b>7, 200</b>	<b>9, 950</b>
Master's or Doctor's Degree								
Private Industry .....	504	9, 200	—	10, 600	10, 900	10, 000	7, 750	—
Professional Service .....	156	9, 200	—	—	10, 450	10, 500	8, 250	—
Government .....	207	8, 800	—	9, 700	10, 300	9, 200	7, 400	—
Universities .....	128	8, 700	—	12, 050	11, 800	9, 200	7, 200	—
Secondary Schools .....	5	—	—	—	—	—	—	—
Industry Not Stated .....	6	—	—	—	—	—	—	—
<b>Total .....</b>	<b>1, 006</b>	<b>9, 050</b>	<b>—</b>	<b>10, 700</b>	<b>10, 800</b>	<b>9, 700</b>	<b>7, 650</b>	<b>—</b>
<b>Total, All Levels .....</b>	<b>8, 699</b>	<b>8, 500</b>	<b>13, 200</b>	<b>11, 550</b>	<b>11, 200</b>	<b>9, 450</b>	<b>7, 250</b>	<b>9, 950</b>

Table 11 – Median Annual Earnings by Region of Employment by Level of Education  
and Years from Bachelor Graduation, 1960

ENGINEERS

Level of Education and Years from Bachelor Graduation	Total		Canada Total	Region of Employment					
				Atlantic	Quebec	Ontario	Prairies	Pacific	United States
	No.	\$	\$	\$	\$	\$	\$	\$	\$
Bachelor's Degree									
Over 40 .....	65	12, 800	12, 800	—	14, 450	14, 450	—	—	—
31 – 40 .....	537	11, 650	11, 650	9, 550	12, 800	11, 400	13, 100	10, 950	—
21 – 30 .....	1, 041	11, 400	11, 350	9, 350	12, 150	11, 300	11, 850	10, 250	12, 550
11 – 20 .....	2, 358	9, 450	9, 400	8, 350	9, 700	9, 350	12, 950	8, 950	11, 350
1 – 10 .....	3, 832	7, 250	7, 200	6, 700	7, 200	7, 200	7, 050	7, 300	8, 950
Year Not Stated .....	16	9, 950	9, 950	—	—	—	—	—	—
<b>Total</b> .....	7, 849	8, 450	8, 450	7, 700	8, 550	8, 550	8, 150	8, 250	9, 550
Master's or Doctor's Degree									
Over 40 .....	5	—	—	—	—	—	—	—	—
31 – 40 .....	86	10, 800	10, 700	—	12, 300	9, 900	—	—	—
21 – 30 .....	203	10, 900	10, 800	—	10, 900	10, 550	11, 300	10, 950	—
11 – 20 .....	385	9, 850	9, 700	—	9, 500	9, 800	10, 300	9, 400	11, 350
1 – 10 .....	392	7, 700	7, 650	—	7, 900	7, 550	7, 600	7, 950	9, 250
Year Not Stated .....	—	—	—	—	—	—	—	—	—
<b>Total</b> .....	1, 071	9, 150	9, 050	9, 150	9, 250	8, 950	8, 800	9, 550	10, 700
<b>Total, All Levels</b> .....	8, 920	8, 550	8, 500	7, 800	8, 650	8, 600	8, 250	8, 450	9, 700



Table 12 — Median Annual Earnings by Undergraduate Course by Level of Education and Years from Bachelor Graduation, 1960

ENGINEERS

UNDERGRADUATE COURSE	Total		LEVEL OF EDUCATION AND YEARS FROM BACHELOR GRADUATION													
			BACHELOR'S DEGREE							MASTER'S OR DOCTOR'S DEGREE						
			Total all Years	Over 40	31 — 40	21 — 30	11 — 20	1 — 10	Year Not Stated	Total all Years	Over 40	31 — 40	21 — 30	11 — 20	1 — 10	Year Not Stated
	No.	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Aeronautical.....	57	7,850	7,900	—	—	8,800	7,300	—	7,800	—	—	—	—	—	—	—
Chemical.....	1,132	8,600	8,500	—	12,650	12,000	9,700	7,000	9,300	—	11,200	10,450	9,800	7,900	—	—
Civil .....	2,247	8,350	8,300	12,300	11,900	11,800	9,300	7,350	8,650	—	9,550	10,250	9,450	7,650	—	—
Electrical .....	1,833	8,550	8,500	—	11,300	10,400	9,100	7,200	9,200	—	—	10,950	9,600	7,250	—	—
Engineering Physics .....	208	8,400	8,100	—	—	—	9,450	7,000	8,900	—	—	—	9,650	8,050	—	—
Geological .....	128	8,750	8,100	—	—	—	9,650	7,000	9,750	—	—	11,450	10,300	7,600	—	—
Mechanical .....	1,906	8,450	8,400	11,950	10,850	12,250	9,500	7,150	8,950	—	9,450	10,250	9,400	7,450	—	—
Metallurgical .....	232	9,100	8,950	—	10,950	11,800	10,100	7,400	9,700	—	—	—	10,550	7,950	—	—
Mining.....	511	9,850	9,700	—	11,950	12,300	10,150	7,350	10,950	—	—	11,450	10,800	8,050	—	—
Petroleum.....	74	8,100	8,100	—	—	—	14,950	7,300	—	—	—	—	—	—	—	—
Other Engineering.....	371	7,700	7,650	—	—	9,200	8,750	6,900	8,550	—	—	—	9,300	7,100	—	—
Total.....	8,699	8,500	8,450	12,750	11,650	11,350	9,400	7,200	9,950	9,050	—	10,700	10,800	9,700	7,650	—

Table 13 — Median Annual Earnings by Work Function by Level of Education and Years from Bachelor Graduation, 1960

ENGINEERS

LEVEL OF EDUCATION AND YEARS FROM BACHELOR GRADUATION	WORK FUNCTION													
	Total	Function												
		No.	\$	Construction, Installation, Fabrication	Design	Executive, Administrative	Field Exploration	Production, Operation, Maintenance	Research, Development	Sales, Service, Marketing, Purchasing	Teaching, Instructing, Extension Work	Testing, Inspection, Laboratory Services	Other	\$
Bachelor's Degree														
Over 40 .....	66	12,750	—	—	15,550	—	—	—	—	—	—	—	—	—
31 — 40 .....	537	11,650	8,750	9,200	14,200	9,100	9,950	9,950	9,950	10,300	8,950	9,300	9,300	—
21 — 30 .....	1,026	11,350	9,550	9,250	13,600	10,150	10,300	10,300	10,200	7,800	8,100	9,100	9,100	—
11 — 20 .....	2,313	9,400	8,750	8,750	10,750	9,100	8,600	8,600	9,150	7,550	8,400	8,800	8,800	9,300
1 — 10 .....	3,735	7,200	7,050	6,950	8,500	7,200	6,700	6,700	7,350	6,450	6,600	7,000	7,000	8,050
Year Not Stated .....	16	9,950	—	—	—	—	—	—	—	—	—	—	—	—
Total, All Years .....	7,693	8,450	7,600	7,650	10,900	8,000	7,550	7,550	8,250	7,300	7,300	7,650	7,650	8,700
Master's or Doctor's Degree														
Over 40 .....	5	—	—	—	—	—	—	—	—	—	—	—	—	—
31 — 40 .....	83	10,700	—	—	13,200	—	10,450	10,450	—	9,950	—	—	—	—
21 — 30 .....	194	10,800	—	8,800	13,800	—	10,900	10,900	—	10,950	—	—	—	—
11 — 20 .....	358	9,700	9,950	8,700	11,150	8,950	9,650	9,650	9,800	9,150	—	8,950	8,950	—
1 — 10 .....	366	7,650	7,200	7,500	9,100	8,000	7,500	7,500	7,450	7,250	—	8,300	8,300	—
Year Not Stated .....	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total, All Years .....	1,006	9,050	7,600	8,200	11,550	8,550	8,900	8,900	8,150	8,650	8,150	8,750	8,750	—
Total, All Levels .....	8,699	8,500	7,600	7,750	10,950	8,050	7,950	7,950	3,250	7,900	7,400	7,750	7,750	8,550

Table 14 — Median and Quartile Annual Salary Rates by Level of Education  
and Year of Bachelor Graduation, 1961

ENGINEERS

Year of Bachelor Graduation	Total		Level of Education				
			BACHELOR'S DEGREE			MASTER'S OR DOCTOR'S DEGREE	
			First Quartile	Median	Third Quartile		
	No.	\$	\$	\$	\$	\$	\$
Before 1920..	44	11, 700	7, 050	11, 450	16, 450	—	—
1920 — 1924..	246	11, 400	9, 150	11, 600	15, 850	8, 700	10, 100
1925 — 1929..	310	10, 900	8, 750	10, 950	14, 650	9, 000	10, 550
1930 — 1934..	472	11, 250	9, 000	11, 550	15, 000	8, 450	10, 850
1935 — 1939..	578	11, 050	8, 900	11, 150	14, 600	8, 850	10, 600
1940 — 1944..	702	10, 050	8, 550	10, 050	12, 100	8, 600	10, 050
1945 — 1949..	1, 545	9, 150	8, 050	9, 050	10, 400	8, 600	9, 850
1950 — 1954..	2, 130	8, 150	7, 300	8, 150	9, 150	7, 250	8, 250
1955.....	256	7, 150	6, 500	7, 150	7, 800	6, 650	7, 250
1956.....	340	6, 700	6, 250	6, 700	7, 300	6, 150	6, 650
1957.....	336	6, 450	6, 050	6, 450	6, 850	6, 050	6, 500
1958.....	401	5, 900	5, 350	5, 900	6, 500	5, 600	6, 250
1959.....	323	5, 550	5, 200	5, 550	5, 900	—	—
Year Not Stated...	15	9, 450	7, 550	9, 450	10, 750	—	—
<b>Total .....</b>	7, 698(1)	8, 450	6, 950	8, 350	10, 250	7, 450	9, 050
							10, 900

(1) Tables 14-18 do not include a total of 1,953 respondents, consisting of 769 self-employed; 27 unemployed and 1,157 who did not answer the question. Those working on salary plus commission were not required to answer.



Table 15 – Median Annual Salary Rates by Industry by Level of Education  
and Year of Bachelor Graduation, 1961

ENGINEERS

Level of Education and Industry	Total		Year of Bachelor Graduation					Year Not Stated
			Before 1920	1920–29	1930–39	1940–49	1950–59	
	No.	\$	\$	\$	\$	\$	\$	\$
Bachelor's Degree								
Private Industry .....	4,902	8,600	16,100	11,950	12,100	9,550	7,400	9,950
Professional Service .....	483	8,000	—	10,950	10,200	8,750	7,450	—
Government .....	1,212	7,700	8,200	10,350	9,550	8,600	6,850	—
Universities .....	74	7,500	—	8,450	—	8,100	7,000	—
Secondary Schools .....	70	7,300	—	10,200	7,600	7,500	5,950	—
Industry Not Stated .....	30	7,850	—	—	—	—	7,350	—
<b>Total .....</b>	<b>6,771</b>	<b>8,350</b>	<b>11,450</b>	<b>11,250</b>	<b>11,250</b>	<b>9,300</b>	<b>7,250</b>	<b>9,450</b>
Master's or Doctor's Degree								
Private Industry .....	479	9,250	—	9,950	11,000	10,150	7,850	—
Professional Service .....	108	8,350	—	—	9,450	9,300	7,600	—
Government .....	213	9,300	—	10,450	10,400	9,950	7,550	—
Universities .....	118	8,750	—	—	11,700	9,500	6,950	—
Secondary Schools .....	6	—	—	—	—	—	—	—
Industry Not Stated .....	3	—	—	—	—	—	—	—
<b>Total .....</b>	<b>927</b>	<b>9,050</b>	<b>—</b>	<b>10,400</b>	<b>10,700</b>	<b>9,900</b>	<b>7,600</b>	<b>—</b>
<b>Total, All Levels .....</b>	<b>7,698</b>	<b>8,450</b>	<b>11,700</b>	<b>11,100</b>	<b>11,150</b>	<b>9,400</b>	<b>7,300</b>	<b>9,450</b>

**Table 16 – Median Annual Salary Rates by Region of Employment by Level of Education  
and Year of Bachelor Graduation, 1961**

**ENGINEERS**

Level of Education and Year of Bachelor Graduation	Total		Canada Total	Region of Employment					United States
				Atlantic	Quebec	Ontario	Prairies	Pacific	
	No.	\$	\$	\$	\$	\$	\$	\$	\$
<b>Bachelor's Degree</b>									
Before 1920 .....	42	11,450	11,450	—	9,450	12,600	—	—	—
1920 – 29 .....	489	11,300	11,300	9,800	12,550	10,850	10,950	11,550	—
1930 – 39 .....	886	11,300	11,300	9,250	12,100	11,300	12,050	10,000	12,950
1940 – 49 .....	1,979	9,350	9,300	8,750	9,600	9,300	9,200	8,850	11,050
1950 – 59 .....	3,511	7,300	7,250	6,750	7,250	7,400	7,100	7,250	9,000
Year Not Stated .....	15	9,450	9,450	—	—	—	—	—	—
<b>Total .....</b>	<b>6,922</b>	<b>8,400</b>	<b>8,350</b>	<b>7,600</b>	<b>8,550</b>	<b>8,500</b>	<b>7,950</b>	<b>8,250</b>	<b>9,800</b>
<b>Master's or Doctor's Degree</b>									
Before 1920 .....	2	—	—	—	—	—	—	—	—
1920 – 29 .....	68	10,400	10,400	—	12,450	10,200	—	—	—
1930 – 39 .....	185	10,750	10,700	—	11,200	10,500	—	—	—
1940 – 49 .....	340	10,000	9,900	—	10,000	9,950	10,700	10,400	11,700
1950 – 59 .....	396	7,700	7,600	—	7,650	7,600	7,550	7,800	9,250
Year Not Stated .....	—	—	—	—	—	—	—	—	—
<b>Total .....</b>	<b>991</b>	<b>9,150</b>	<b>9,050</b>	<b>9,350</b>	<b>9,300</b>	<b>9,000</b>	<b>8,800</b>	<b>9,200</b>	<b>10,350</b>
<b>Total, All Levels .....</b>	<b>7,913</b>	<b>8,500</b>	<b>8,450</b>	<b>7,700</b>	<b>8,600</b>	<b>8,550</b>	<b>8,000</b>	<b>8,350</b>	<b>9,900</b>

Table 17 – Median Annual Salary Rates by Undergraduate Course by Level of Education and Year of Bachelor Graduation, 1961

ENGINEERS

UNDERGRADUATE COURSE	Total		LEVEL OF EDUCATION AND YEAR OF BACHELOR GRADUATION										MASTER'S OR DOCTOR'S DEGREE					
			BACHELOR'S DEGREE								Total all Years	Before 1920	1920-29	1930-39	1940-49	1950-59	Year Not Stated	
			Total all Years	Before 1920	1920-29	1930-39	1940-49	1950-59	Year Not Stated									
	No.	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	
Aeronautical .....	51	7,800	7,800	-	-	-	8,550	7,300	-	7,800	-	-	-	-	-	-	-	
Chemical .....	1,037	8,550	8,400	-	11,450	11,250	9,550	7,100	-	9,400	-	11,450	9,700	10,250	8,150	-	-	
Civil.....	1,909	8,150	8,100	11,450	11,950	11,650	8,900	7,300	-	8,400	-	9,100	9,850	9,350	7,500	-	-	
Electrical.....	1,706	8,600	8,550	-	11,250	10,350	9,200	7,300	-	9,200	-	10,300	11,050	9,550	7,450	-	-	
Engineering Physics .....	194	8,700	8,250	-	-	-	9,550	7,300	-	9,200	-	-	-	10,200	8,200	-	-	
Geological .....	118	8,450	7,700	-	-	-	9,800	6,950	-	9,450	-	-	11,950	10,450	6,800	-	-	
Mechanical.....	1,672	8,400	8,300	-	10,800	12,200	9,300	7,350	-	9,050	-	9,200	10,300	9,700	7,400	-	-	
Metallurgical .....	205	9,050	8,900	-	-	12,700	9,850	7,500	-	9,700	-	-	-	10,800	8,050	-	-	
Mining.....	445	9,650	9,500	-	10,900	12,300	9,950	7,400	-	10,750	-	-	11,700	10,700	8,450	-	-	
Petroleum.....	72	8,050	8,050	-	-	-	-	7,550	-	-	-	-	-	-	-	-	-	
Other Engineering.....	289	7,550	7,450	-	-	8,950	8,450	6,750	-	7,900	-	-	-	-	7,300	-	-	
Total.....	7,698	8,450	8,350	11,450	11,250	11,250	9,300	7,250	9,450	9,050	-	10,400	10,700	9,900	7,600	-	-	



Table 18 — Median Annual Salary Rates by Work Function by Level of Education and Year of Bachelor Graduation, 1961

ENGINEERS													
LEVEL OF EDUCATION AND YEAR OF BACHELOR GRADUATION	WORK FUNCTION												
	Total		Construction, Installation, Erection	Design	Executive, Administrative	Field Exploration	Production, Operation, Maintenance	Research, Development	Sales, Service, Marketing, Purchasing	Teaching, Instruction, Extension Work	Testing, Inspection, Laboratory Services	Other	Function Not Stated
	No.	\$											
Bachelor's Degree													
Before 1920 .....	42	11,450	—	—	14,450	—	—	—	—	—	—	—	—
1920 — 29 .....	190	11,250	8,350	9,000	13,800	—	8,850	10,050	9,100	10,050	—	10,450	—
1930 — 39 .....	872	11,250	9,050	9,050	13,150	—	10,600	10,550	9,700	7,950	8,200	8,650	—
1940 — 49 .....	1,932	9,300	8,600	8,700	10,600	9,050	9,150	8,800	8,950	7,700	8,300	8,750	9,550
1950 — 59 .....	3,420	7,250	7,050	7,050	8,500	7,050	7,400	6,950	7,250	6,450	6,700	7,000	7,950
Year Not Stated .....	15	9,150	—	—	—	—	—	—	—	—	—	—	—
Total .....	6,771	8,350	7,550	7,650	10,750	8,100	8,100	7,750	8,000	7,300	7,300	7,600	8,750
Master's or Doctor's Degree													
Before 1920 .....	2	—	—	—	—	—	—	—	—	—	—	—	—
1920 — 29 .....	66	10,400	—	9,200	11,800	—	—	10,950	—	—	—	—	—
1930 — 39 .....	178	10,700	—	8,950	13,550	—	—	10,600	—	11,200	—	—	—
1940 — 49 .....	315	9,900	—	8,650	11,150	9,300	9,950	10,150	—	9,450	—	9,700	—
1950 — 59 .....	366	7,600	7,300	7,400	8,900	7,450	7,950	7,750	7,450	6,900	—	7,700	—
Year Not Stated .....	—	—	—	—	—	—	—	—	—	—	—	—	—
Total .....	927	9,050	7,700	8,150	11,400	8,550	8,650	9,050	7,700	8,600	8,550	9,050	—
Total, All Levels .....	7,698	8,450	7,550	7,700	10,800	8,200	8,150	8,150	8,000	7,750	7,350	7,700	8,550

**PART 2**



**SCIENCE**





## PART 2 – SCIENCE

(Includes graduates in Honour Science, General Science,  
Agriculture, Forestry and Geography.)

### A. – Charts

<u>Employment</u>	<u>Page</u>
Chart 7 – Work Function by Years from Bachelor Graduation, 1960	39
Chart 8 – Work Function by Level of Education, 1960 .....	40
<u>Earnings</u>	
Chart 9 – Earnings by Years from Bachelor Graduation by Employment Status, 1960 .....	41
Chart 10 – Earnings by Industry by Years from Bachelor Graduation, 1960.....	41
<u>Salary Rates</u>	
Chart 11 – Salary Rates by Year of Bachelor Graduation, 1961 ....	42
Chart 12 – Salary Rates by Function by Year of Bachelor Graduation, 1961.....	43

### B. – Tables

<u>Employment</u>	
Table 19 – Employment Status by Level of Education, 1960 .....	44
Table 20 – Undergraduate Course by Industry, 1960 .....	45
Table 21A- Industry by Years from Bachelor Graduation, 1960 .....	46
Table 21B- Industry by Years from Bachelor Graduation, 1960 .....	47
Table 22 – Industry by Level of Education and Years from Bachelor Graduation, 1960 .....	48
Table 23 – Region of Employment by Years from Bachelor Graduation, 1960 .....	49
Table 24 – Work Function by Years from Bachelor Graduation, 1960	50
Table 25 – Work Function by Level of Education, 1960 .....	51
<u>Earnings</u>	
Table 26 – Median and Quartile Annual Earnings by Level of Education and Years from Bachelor Graduation, 1960	52
Table 27 – Median Annual Earnings by Employment Status by Level of Education and Years from Bachelor Graduation, 1960 .....	53
Table 28 – Median Annual Earnings by Industry by Level of Education and Years from Bachelor Graduation, 1960	54
Table 29 – Median Annual Earnings by Region of Employment by Level of Education and Years from Bachelor Graduation, 1960 .....	55

## PART 2 – SCIENCE – (Concluded)

### B. – Tables

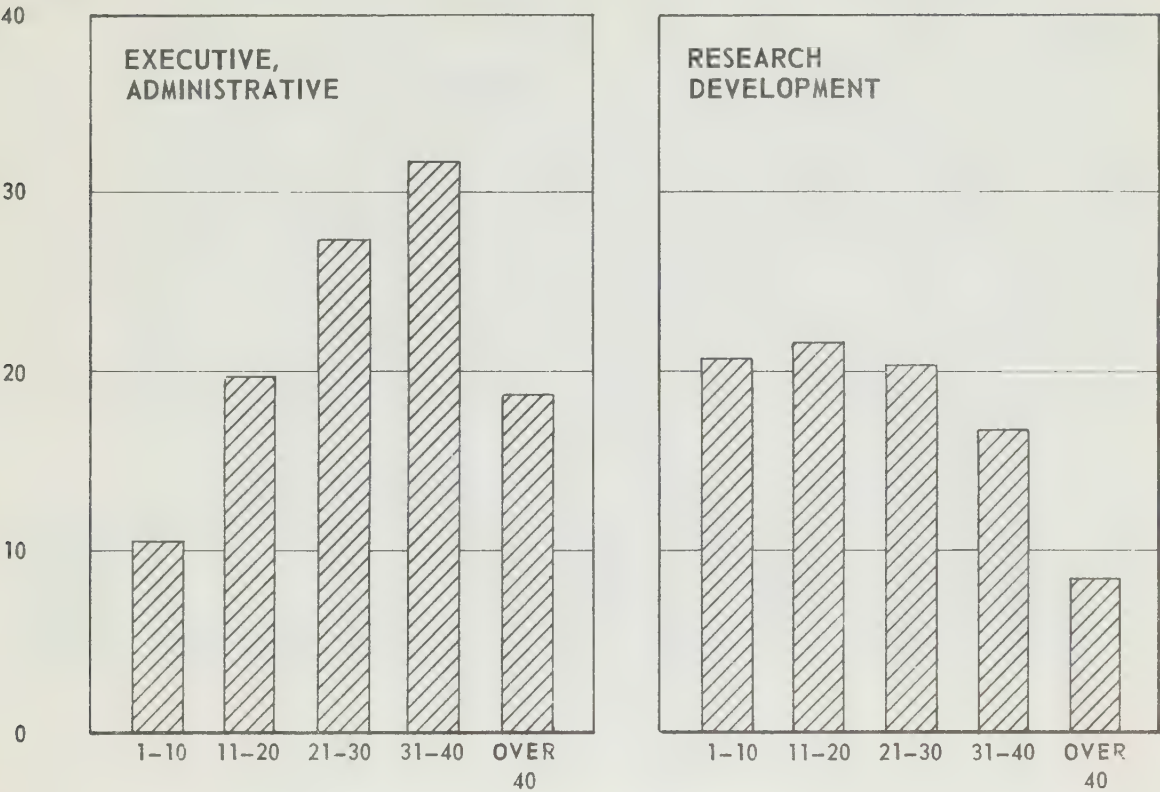
<u>Earnings – (Concluded)</u>	<u>Page</u>
Table 30 – Median Annual Earnings by Undergraduate Course by Level of Education and Years from Bachelor Graduation, 1960 .....	56
Table 31 – Median Annual Earnings by Work Function by Level of Education and Years from Bachelor Graduation, 1960 .....	57
<u>Salary Rates</u>	
Table 32 – Median and Quartile Annual Salary Rates by Level of Education and Year of Bachelor Graduation, 1961 ....	58
Table 33 – Median Annual Salary Rates by Industry by Level of Education and Year of Bachelor Graduation, 1961 .....	59
Table 34 – Median Annual Salary Rates by Region of Employment by Level of Education and Year of Bachelor Graduation, 1961 .....	60
Table 35 – Median Annual Salary Rates by Undergraduate Course by Level of Education and Year of Bachelor Graduation, 1961 .....	61
Table 36 – Median Annual Salary Rates by Work Function by Level of Education and Year of Bachelor Graduation, 1961 .....	62

Chart 7

WORK FUNCTION BY YEARS  
FROM BACHELOR GRADUATION, 1960

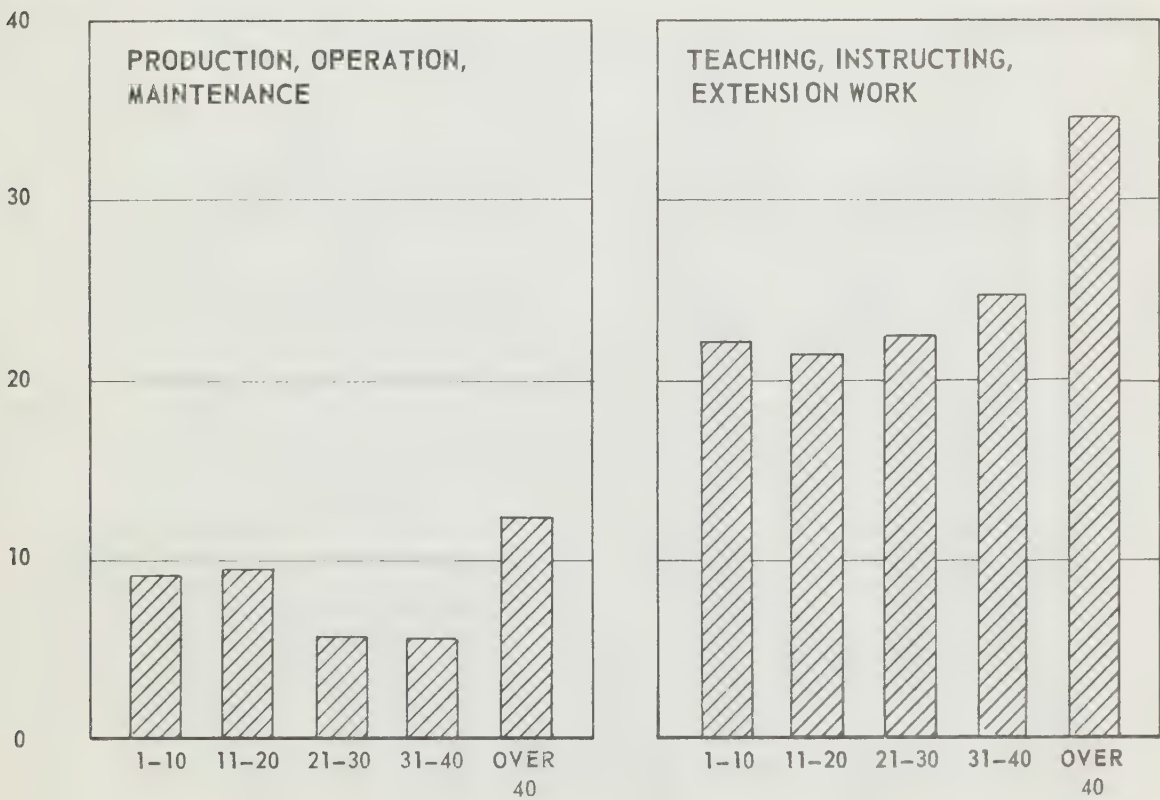
SCIENTISTS

Per Cent



Years from Graduation, 1960

Per Cent



Years from Graduation, 1960

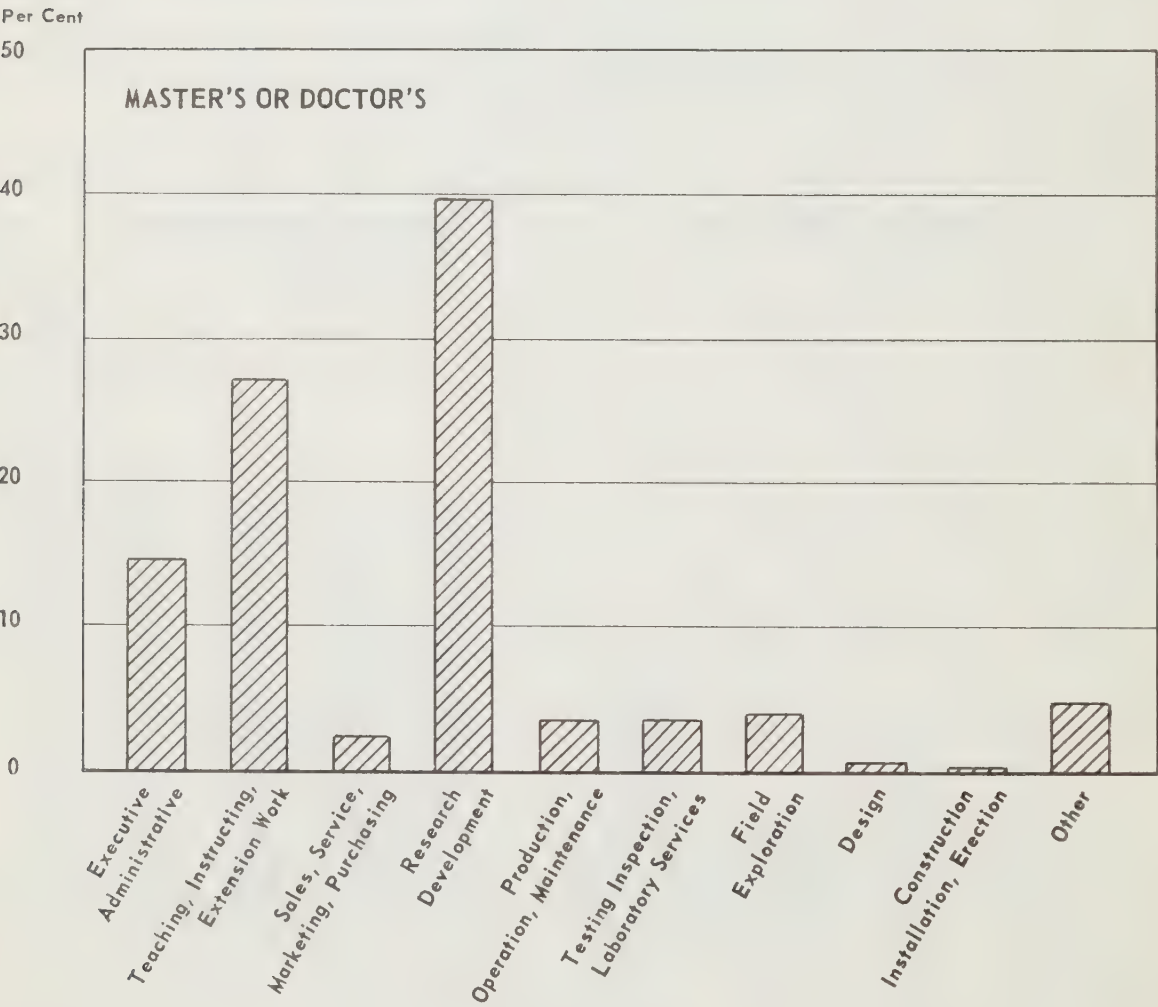
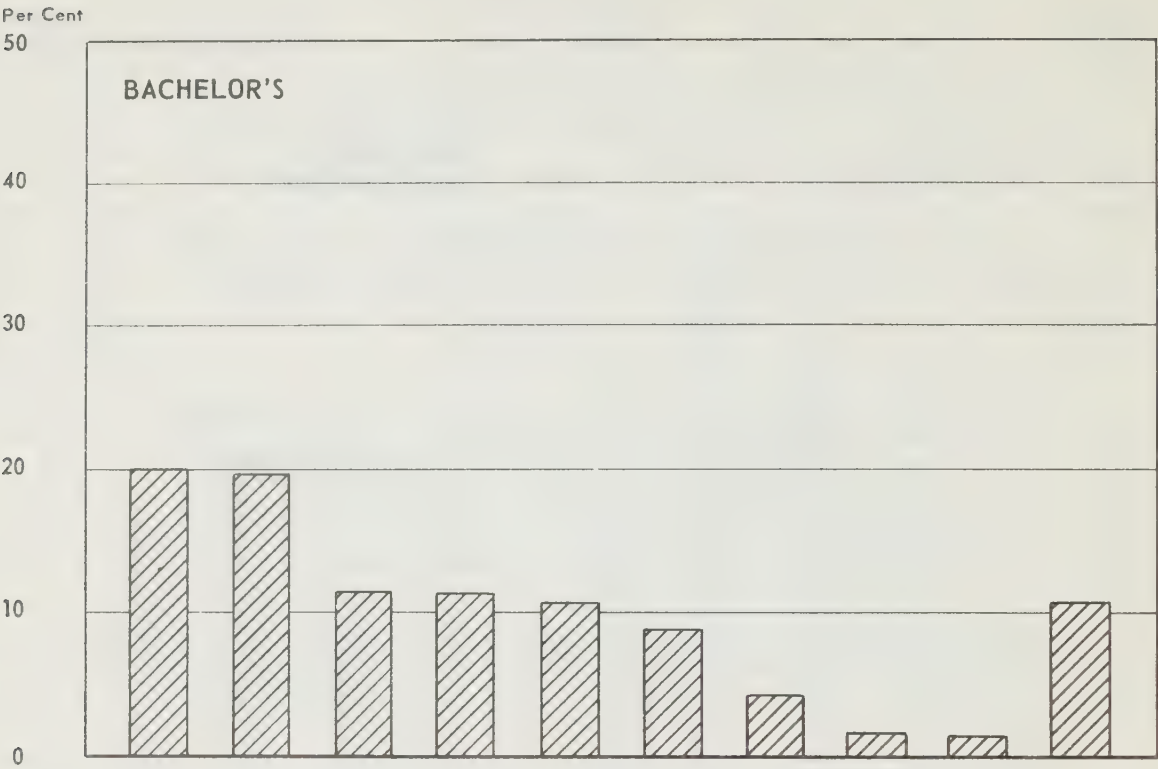
Source - Table 24



Chart 8

WORK FUNCTION BY LEVEL OF EDUCATION, 1960

SCIENTISTS



Source - Table 25

Chart 9

EARNINGS BY YEARS FROM BACHELOR GRADUATION  
BY EMPLOYMENT STATUS, 1960

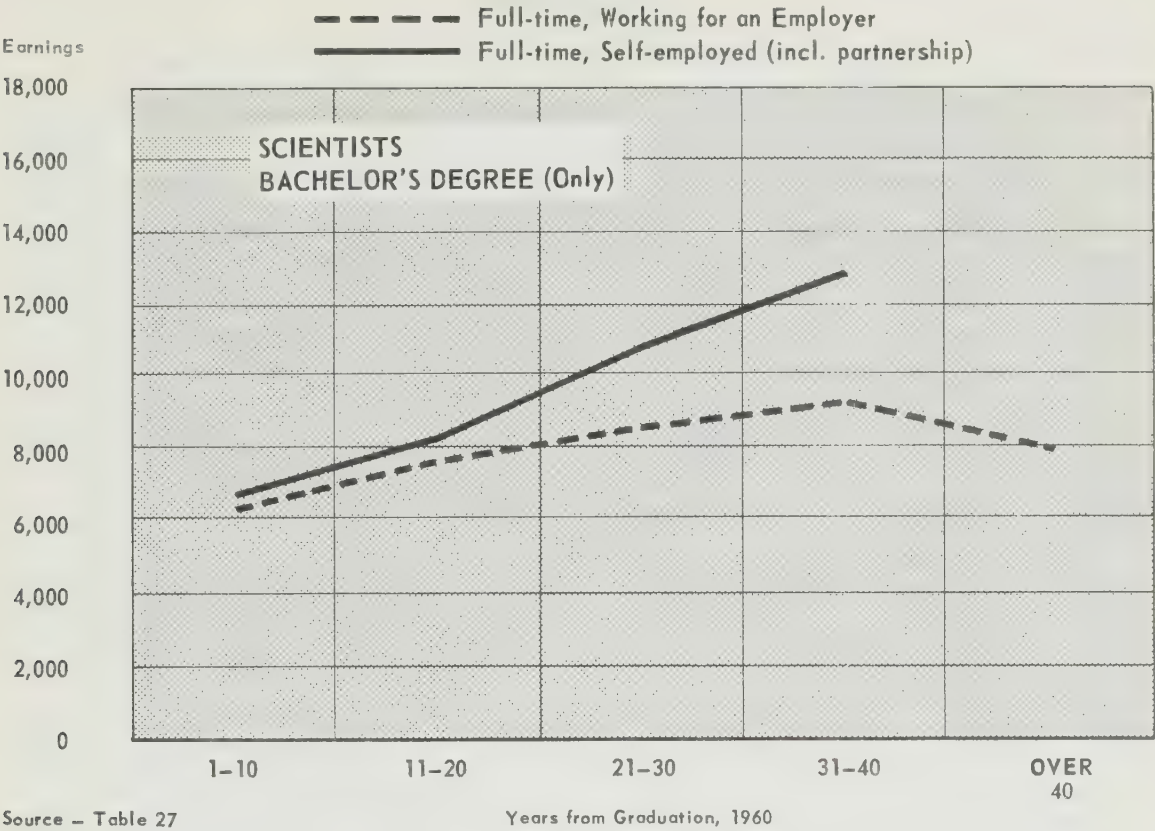


Chart 10

EARNINGS BY INDUSTRY BY YEARS FROM BACHELOR GRADUATION, 1960

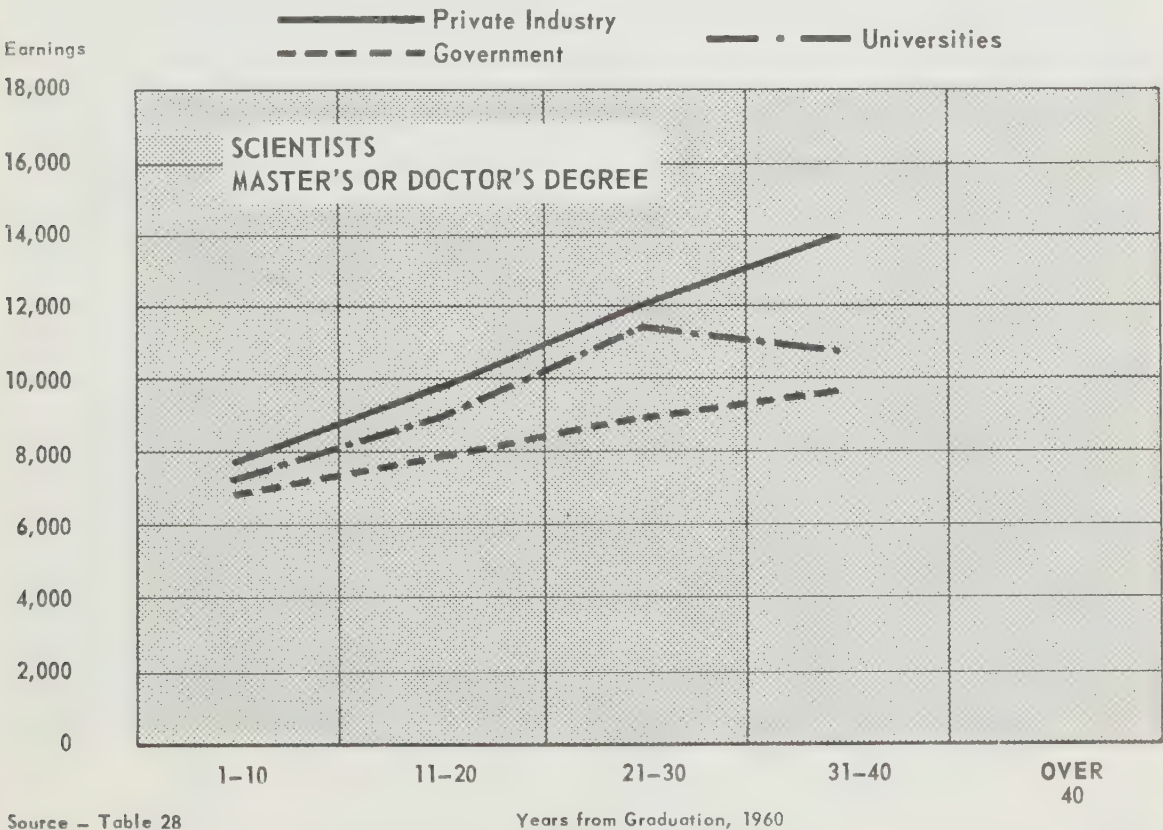
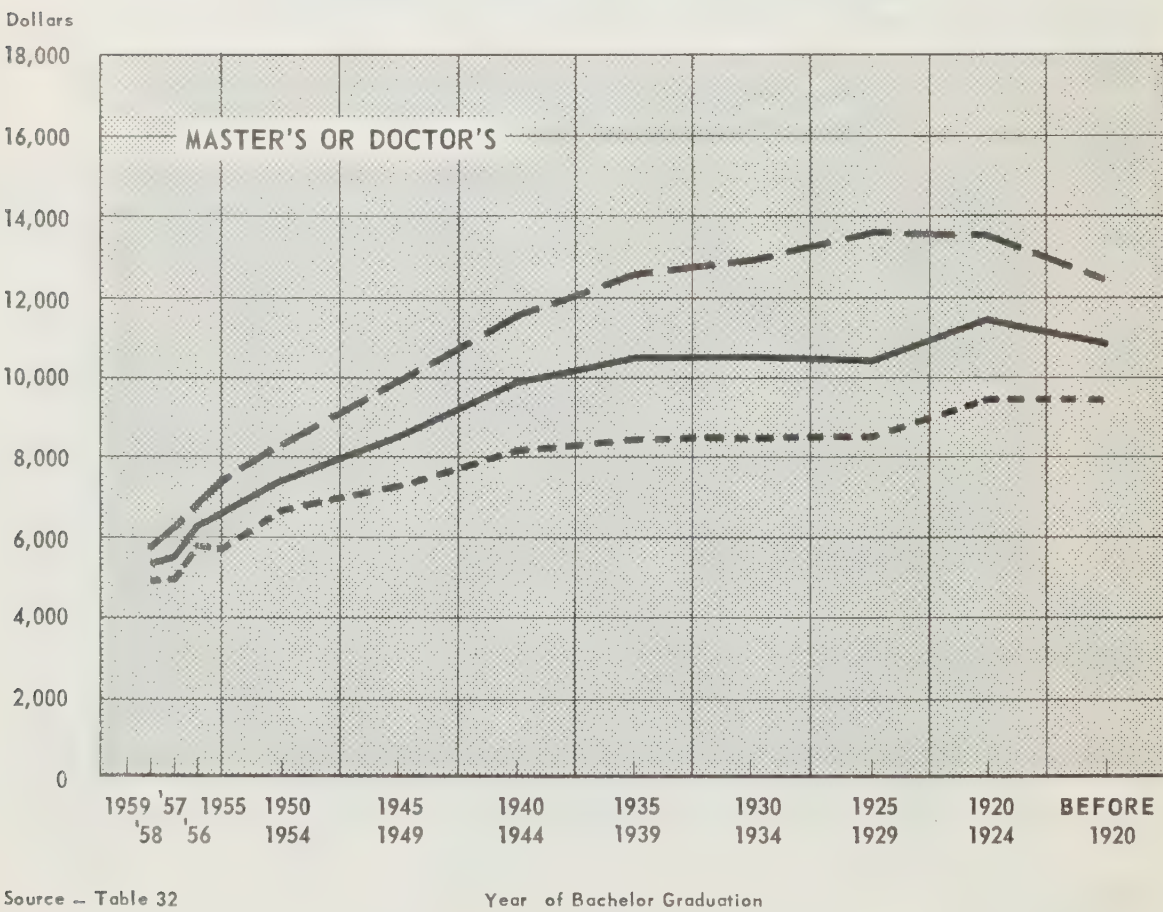
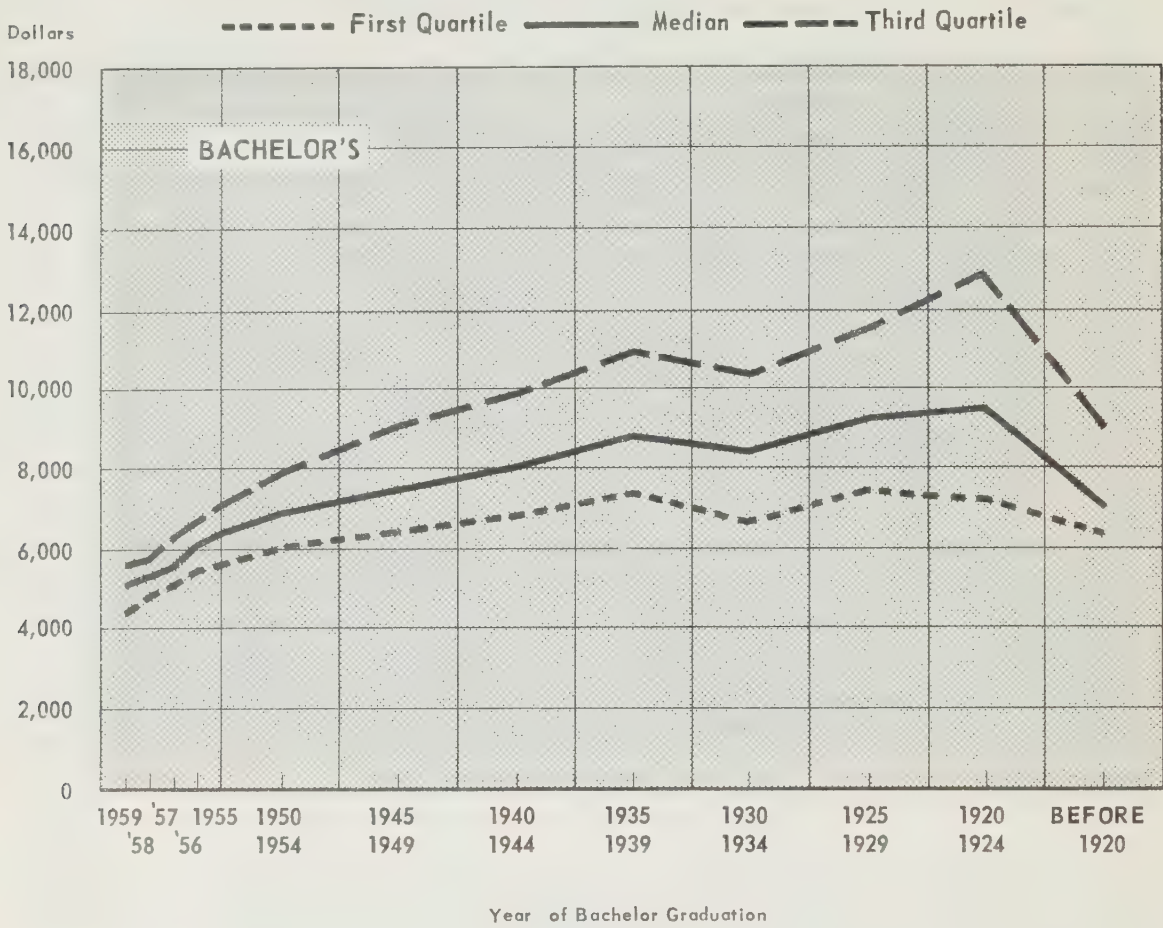




Chart 11

SALARY RATES BY YEAR OF BACHELOR GRADUATION,  
JANUARY 1961

SCIENTISTS



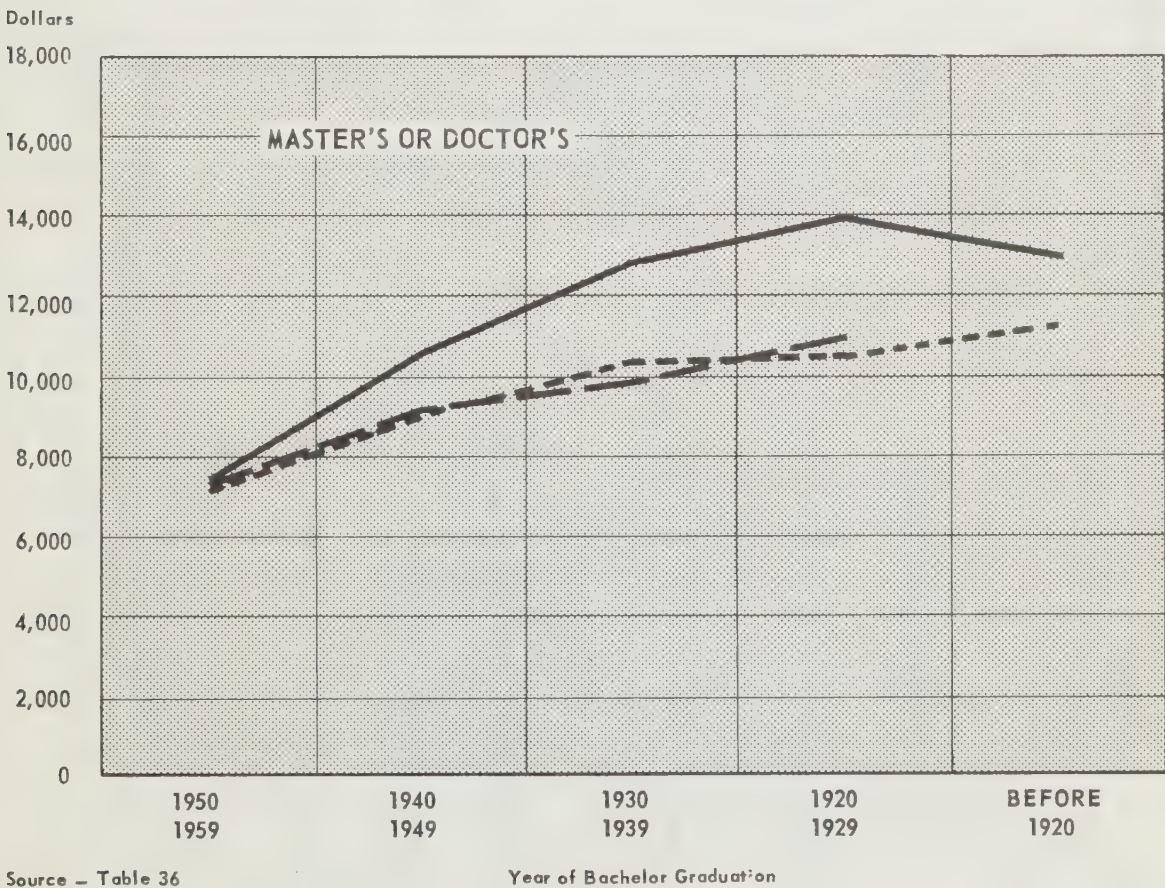
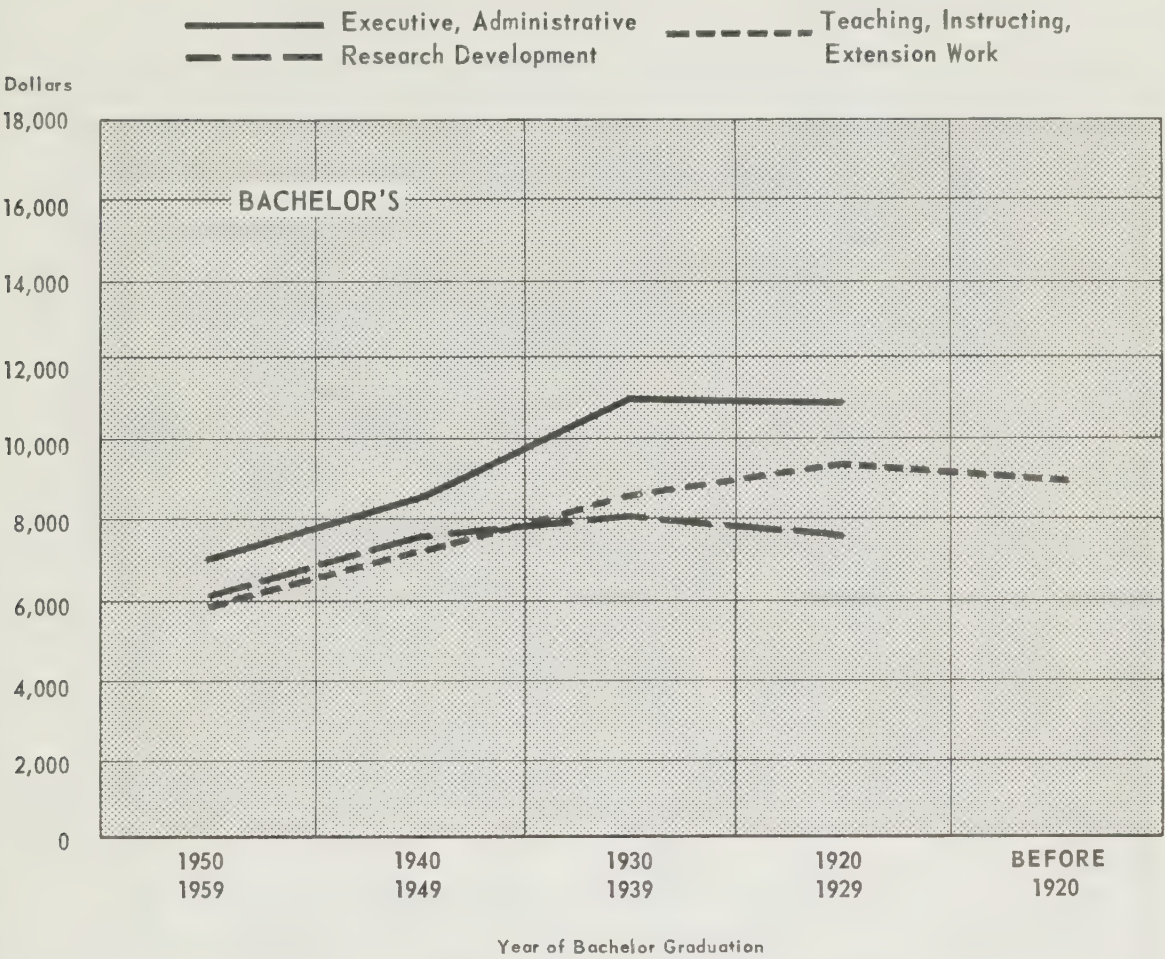
Source — Table 32



Chart 12

SALARY RATES BY FUNCTION BY YEAR OF BACHELOR GRADUATION,  
JANUARY 1961

SCIENTISTS



Source - Table 36

Table 19 -- Employment Status by Level of Education, 1960

SCIENTISTS

Employment Status	Total		Level of Education			
			Bachelor's Degree		Master's or Doctor's Degree	
	No.	%	No.	%	No.	%
Employed, Full-time .....	4,705	92.1	3,090	90.7	1,615	95.0
Employed, Part-time .....	56	1.1	33	1.0	23	1.4
Self-Employed, Full-time .....	310	6.1	259	7.6	51	3.0
Self-Employed, Part-time .....	18	0.3	11	0.3	7	0.4
Unemployed .....	19	0.4	15	0.4	4	0.2
<b>Total</b> .....	5,108	100.0	3,408	100.0	1,700	100.0

Table 20 – Undergraduate Course by Industry, 1960

SCIENTISTS

INDUSTRY	Total		UNDERGRADUATE COURSE									
			Agriculture	Hortology	Chemistry	Forestry	General Science	Geology	Mathematics	Mathematics and Physics	Physics	Other Sciences
	No.	%										
Primary Industry other than Mining .....	231	4.5	141	1	2	79	2	1	—	2	—	3
Mining .....	222	4.3	6	—	17	1	46	132	1	5	5	9
Manufacturing, Total .....	1,106	21.7	231	3	405	119	183	33	11	43	20	58
Food, Beverages, Tobacco .....	171	3.3	116	1	27	1	16	1	2	2	—	5
Rubber, Leather, Textiles, Clothing .....	86	1.7	9	—	43	2	17	—	3	3	3	6
Wood Products .....	56	1.1	1	—	5	46	2	—	—	1	—	1
Paper Products .....	133	2.6	3	—	45	61	13	—	2	2	—	7
Iron and Steel Products .....	58	1.1	20	1	9	1	16	2	1	3	—	5
Transportation Equipment .....	23	0.5	3	—	4	—	1	2	1	2	—	3
Non-Ferrous Metal Products .....	41	0.8	—	—	25	1	8	1	1	6	1	3
Electrical Apparatus .....	65	1.3	3	—	9	1	21	1	—	17	10	4
Non-Metallic Mineral Products .....	24	0.5	1	—	11	1	6	—	—	1	1	2
Products of Petroleum and Coal .....	97	1.9	3	—	42	—	18	25	1	1	2	5
Chemical Products .....	323	6.3	62	1	179	4	56	1	1	2	2	15
Printing, Publishing, Miscellaneous .....	29	0.6	10	—	6	1	5	1	—	3	1	2
Construction .....	24	0.5	11	—	5	1	3	2	—	2	—	—
Transportation, Storage and Communication .....	89	1.7	18	1	6	7	35	1	2	14	5	—
Public Utilities .....	46	0.9	22	—	2	5	6	4	1	4	—	2
Trade, Finance, Insurance, Real Estate .....	393	7.7	177	5	42	27	61	21	24	20	3	13
Professional Service .....	249	4.9	42	8	45	31	34	40	5	17	11	16
Universities .....	465	9.1	102	51	91	6	53	21	33	41	37	30
Dominion Government (inc. Armed Forces) .....	978	19.1	384	82	109	68	120	33	12	91	47	32
Municipal and Other Local Governments .....	35	0.7	14	2	3	4	6	—	—	2	—	4
Provincial Governments .....	601	11.8	341	21	28	126	37	26	5	4	1	12
Secondary Schools .....	562	11.0	115	40	47	13	191	21	20	70	9	36
Other .....	62	1.2	12	9	8	—	17	1	—	3	5	7
Not Stated .....	45	0.9	17	—	7	—	14	2	—	1	1	3
Total .....	5,108	100.0	1,633	223	817	487	808	338	114	319	144	225
% .....		100.0	32.0	4.4	16.0	9.5	15.8	6.6	2.2	6.3	2.8	4.4



Table 21A — Industry by Years from Bachelor Graduation, 1960  
SCIENTISTS

Industry	Total No.	Years from Bachelor Graduation					Year Not Stated No.
		Over 40 No.	31 — 40 No.	21 — 30 No.	11 — 20 No.	1 — 10 No.	
Primary Industries other than mining .....	231	3	12	27	81	108	—
Mining .....	222	2	15	21	54	130	—
Manufacturing, Total.....	1,106	2	68	209	399	424	4
Food, Beverages, Tobacco .....	171	—	9	32	60	70	—
Rubber, Leather, Textile, Clothing .....	86	1	6	17	25	37	—
Wood Products.....	56	—	3	11	16	26	—
Paper Products .....	133	—	15	34	46	37	1
Iron and Steel Products .....	58	—	1	12	20	25	—
Transportation Equipment .....	23	—	—	6	10	7	—
Non-Ferrous Metal Products .....	41	—	—	9	16	14	—
Electrical Apparatus .....	65	—	2	9	27	26	—
Non-Metallic Mineral Products .....	24	—	3	4	10	7	—
Products of Petroleum and Coal.....	97	—	5	13	36	43	—
Chemical Products .....	323	1	18	52	124	125	3
Printing, Publishing, Miscellaneous ....	29	—	3	10	9	7	—
Construction.....	24	—	3	3	11	7	—
Transportation, Storage and Communication	89	—	12	13	21	43	—
Public Utilities.....	46	—	4	8	17	17	—
Trade, Finance, Insurance, Real Estate..	393	3	19	52	137	182	—
Professional Service .....	249	4	23	55	81	85	1
Universities.....	465	10	51	93	157	153	1
Dominion Government (inc. Armed Forces)	978	5	88	201	326	358	—
Municipal and Other Local Governments	35	1	5	3	9	16	1
Provincial Governments.....	601	13	38	101	182	267	—
Secondary Schools .....	562	5	53	111	138	255	—
Other.....	62	1	—	14	16	31	—
Not Stated .....	45	—	3	11	13	18	—
<b>Total .....</b>	<b>5,108</b>	<b>49</b>	<b>394</b>	<b>922</b>	<b>1,642</b>	<b>2,094</b>	<b>7</b>

Table 21 B — Industry by Years from Bachelor Graduation, 1960

SCIENTISTS

Industry	Total	Years from Bachelor Graduation					1 — 10	Year Not Stated
		Over 40	31 — 40	21 — 30	11 — 20	1 — 10		
	No.	%	%	%	%	%	%	%
Primary Industries other than mining .....								
Mining .....	231	1.3					46.7	—
Manufacturing, Total .....	222	0.9	5.2	11.7	35.1		58.6	—
Food, Beverages, Tobacco .....	1,106	0.2	6.7	9.5	24.3		38.3	0.4
Rubber, Leather, Textiles, Clothing ..	171	—	6.1	18.9	36.1		40.9	—
Wood Products .....	86	1.2	5.3	18.7	35.1		43.0	—
Paper Products .....	56	—	6.9	19.8	29.1		46.4	—
Iron and Steel Products .....	133	—	5.4	19.6	28.6		27.8	0.7
Transportation Equipment .....	58	—	11.3	25.6	34.6		43.1	—
Non-Ferrous Metal Products .....	23	—	1.7	20.7	34.5		30.4	—
Electrical Apparatus .....	41	—	—	26.1	43.5		34.1	—
Non-Metallic Mineral Products .....	65	—	4.9	22.0	39.0		40.0	—
Products of Petroleum and Coal .....	24	—	4.6	13.9	41.5		29.1	—
Chemical Products .....	97	—	12.5	16.7	41.7		44.3	—
Printing, Publishing, Miscellaneous ..	323	0.3	5.2	13.4	37.1		38.7	0.9
Construction .....	29	—	5.6	16.1	38.4		24.1	—
Transportation, Storage and Communication.	24	—	10.4	34.5	31.0		29.2	—
Public Utilities .....	89	—	12.5	12.5	45.8		48.3	—
Trade, Finance, Insurance, Real Estate..	46	—	13.5	14.6	23.6		37.0	—
Professional Service .....	393	0.8	8.7	17.3	37.0		46.3	—
Universities .....	249	1.6	4.8	13.2	34.9		34.2	0.4
Dominion Government (inc. Armed Forces)	465	2.1	9.2	22.1	32.5		32.9	0.2
Municipal and Other Local Governments .	978	0.5	11.0	20.0	33.8		36.6	—
Provincial Governments .....	35	2.9	9.0	20.6	33.3		45.7	2.9
Secondary Schools .....	601	2.2	14.3	8.5	25.7		44.4	—
Other .....	562	0.9	6.3	16.8	30.3		45.4	—
Not Stated .....	62	1.6	9.4	19.7	24.6		50.0	—
	45	—	6.7	24.4	28.9		40.0	—
Total .....	5,108	1.0	7.7	18.1	32.1		41.0	0.1

Table 22 – Industry by Level of Education and Years from Bachelor Graduation, 1960  
SCIENTISTS

Level of Education and Industry	YEARS FROM BACHELOR GRADUATION													
	Total		Over 40		31 – 40		21 – 30		11 – 20		1 – 10		Year Not Stated	
			No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Bachelor's Degree –														
Private Industry .....	1,766	100.0	8	0.5	92	5.2	240	13.6	590	33.4	834	47.2	2	0.1
Professional Service .....	136	100.0	1	0.7	6	4.4	21	15.5	47	34.6	60	44.1	1	0.7
Government .....	947	100.0	14	1.5	66	7.0	149	15.7	285	30.1	433	45.7	–	–
Universities .....	73	100.0	–	–	7	9.6	11	15.1	17	23.3	38	52.0	–	–
Secondary Schools .....	452	100.0	3	0.7	35	7.7	80	17.7	110	24.3	224	49.6	–	–
Industry Not Stated .....	34	100.0	–	–	2	5.9	9	26.5	7	20.6	16	47.0	–	–
Total .....	3,408	100.0	26	0.8	208	6.1	510	14.9	1,506	31.0	1,605	47.1	3	0.1
Master's or Doctor's Degree –														
Private Industry .....	407	100.0	3	0.7	41	10.1	107	26.3	146	35.9	108	26.5	2	0.5
Professional Service .....	113	100.0	3	2.7	17	15.0	34	30.1	34	30.1	25	22.1	–	–
Government .....	667	100.0	5	0.8	65	9.7	156	23.4	232	34.8	208	31.2	1	0.1
Universities .....	392	100.0	10	2.6	44	11.2	82	20.9	140	35.7	115	29.3	1	0.3
Secondary Schools .....	110	100.0	2	1.8	18	16.4	31	28.2	28	25.4	31	28.2	–	–
Industry Not Stated .....	11	100.0	–	–	1	9.1	2	18.2	6	54.5	2	18.2	–	–
Total .....	1,700	100.0	23	1.4	186	10.9	412	24.2	586	34.5	489	28.8	4	0.2
Total, All Levels .....	5,108	100.0	49	1.0	394	7.7	922	18.1	1,642	32.1	2,094	41.0	7	0.1

Table 23 – Region of Employment by Years from Bachelor Graduation, 1960

SCIENTISTS

Region of Employment	Total		Years from Bachelor Graduation					Year Not Stated
			Over 40	31 – 40	21 – 30	11 – 20	1 – 10	
	No.	%	%	%	%	%	%	%
Atlantic .....	352	100.0	0.3	7.1	17.3	37.2	38.1	—
Quebec .....	1,001	100.0	1.9	7.7	19.5	31.6	39.1	0.2
Ontario .....	2,145	100.0	1.0	8.9	19.9	31.7	38.3	0.2
Prairies .....	1,029	100.0	0.5	6.3	15.1	31.7	46.4	—
Pacific .....	554	100.0	0.4	6.1	14.1	33.2	46.0	0.2
Region Not Stated .....	27	100.0	—	7.4	22.2	22.2	48.2	—
<b>Canada, Total .....</b>	<b>5,108</b>	<b>100.0</b>	<b>1.0</b>	<b>7.7</b>	<b>18.1</b>	<b>32.1</b>	<b>41.0</b>	<b>0.1</b>



Table 24 — Work Function by Years from Bachelor Graduation, 1960

WORK FUNCTION	SCIENTISTS													
	Total		YEARS FROM BACHELOR GRADUATION											
			Over 40		31 — 40		21 — 30		11 — 20		1 — 10		Year Not Stated	
	No.	%												
Construction, Installation, Erection .....	49	0.9	—	—	3	0.8	5	0.6	16	1.0	25	1.2	—	—
Design .....	70	1.4	1	2.0	7	1.8	4	0.4	19	1.2	39	1.9	—	—
Executive, Administrative .....	924	18.1	9	18.4	125	31.7	250	27.1	322	19.6	217	10.4	1	14.3
Field Exploration .....	212	4.2	1	2.0	5	1.3	17	1.9	44	2.7	145	6.9	—	—
Production, Operation, Maintenance .....	425	8.3	6	12.3	22	5.6	53	5.7	155	9.4	188	9.0	1	14.3
Research, Development .....	1,059	20.7	4	8.2	66	16.7	188	20.4	358	21.8	438	20.9	5	71.4
Sales, Service, Marketing, Purchasing .....	423	8.3	3	6.1	13	3.3	52	5.6	145	8.8	210	10.0	—	—
Teaching, Instructing, Extension Work .....	1,128	22.1	17	34.7	98	24.9	208	22.6	328	20.6	467	22.3	—	—
Testing, Inspection, Laboratory Services .....	365	7.1	2	4.1	14	3.5	70	7.6	113	6.9	166	7.9	—	—
Other .....	391	7.7	5	10.2	32	8.1	61	6.6	117	7.1	176	8.4	—	—
Function Not Stated .....	62	1.2	1	2.0	9	2.3	14	1.5	15	0.9	23	1.1	—	—
Total .....	5,108	100.0	49	100.0	394	100.0	922	100.0	1,642	100.0	2,094	100.0	7	100.0

Table 25 – Work Function by Level of Education, 1960

SCIENTISTS

Work Function	Total		Level of Education			
			Bachelor's Degree		Master's or Doctor's Degree	
	No.	%	No.	%	No.	%
Construction, Installation, Erection .....	49	0.9	45	1.3	4	0.2
Design .....	70	1.4	54	1.6	16	0.9
Executive, Administrative .....	924	18.1	681	20.0	243	14.3
Field Exploration .....	212	4.2	144	4.2	68	4.0
Production, Operation, Maintenance .....	425	8.3	371	10.9	54	3.2
Research, Development .....	1,059	20.7	384	11.3	675	39.7
Sales, Service, Marketing, Purchasing .....	423	8.3	386	11.3	37	2.2
Teaching, Instructing, Extension Work .....	1,128	22.1	669	19.6	459	27.0
Testing, Inspection, Laboratory Services .....	365	7.1	305	9.0	60	3.5
Other .....	391	7.7	317	9.3	74	4.4
Function Not Stated .....	62	1.2	52	1.5	10	0.6
<b>Total .....</b>	<b>5,108</b>	<b>100.0</b>	<b>3,408</b>	<b>100.0</b>	<b>1,700</b>	<b>100.0</b>

Table 26 -- Median and Quartile Annual Earnings by Level of Education  
and Years from Bachelor Graduation, 1960  
SCIENTISTS

Years from Bachelor Graduation	Number	Level of Education					
		BACHELOR'S DEGREE			MASTER'S OR DOCTOR'S DEGREE		
		First Quartile	Median	Third Quartile	First Quartile	Median	Third Quartile
Over 40 .....	34	\$ 6,300	\$ 7,800	\$ 9,200	\$ 9,200	\$ 11,450	\$ 12,800
36 - 40 .....	114	6,750	9,400	12,200	9,050	10,750	13,600
31 - 35 .....	215	7,300	9,100	11,500	8,500	10,300	13,450
26 - 30 .....	328	6,600	8,350	10,300	8,300	10,400	12,800
21 - 25 .....	474	7,250	8,750	10,850	8,000	10,300	12,400
16 - 20 .....	492	6,600	7,950	10,250	7,950	9,600	11,200
11 - 15 .....	980	6,300	7,400	8,950	7,250	8,350	9,700
6 - 10 .....	1,135	6,000	6,850	7,950	6,450	7,250	8,200
5 .....	137	5,200	6,150	7,000	5,500	6,200	6,950
4 .....	126	5,250	5,950	6,650	5,250	5,800	6,650
3 .....	134	5,000	5,500	6,050	4,550	5,300	5,900
2 .....	125	4,550	5,250	5,800	4,950	5,600	6,450
1 .....	126	4,300	4,900	5,550	—	—	—
Year Not Stated .....	6	—	—	—	—	—	—
Total .....	4,426 <sup>(1)</sup>	5,800	7,000	8,750	7,100	8,550	10,650

(1) Tables 26-31 do not include a total of 682 respondents consisting of 74 working part-time; 19 unemployed; 291 working less than ten months and 298 who did not answer the earnings question.

Table 27 – Median Annual Earnings by Employment Status by Level of Education  
and Years from Bachelor Graduation, 1960

SCIENTISTS

Years from Bachelor Graduation	Level of Education and Employment Status					
	Total		BACHELOR'S DEGREE		MASTER'S OR DOCTOR'S DEGREE	
			Employed Full-time	Self-employed Full-time	Employed Full-time	Self-employed Full-time
	No.	\$	\$	\$	\$	\$
Over 40 .....	34	9, 450	7, 800	—	10, 950	—
31 – 40 .....	329	9, 800	9, 200	12, 800	10, 350	15, 950
21 – 30 .....	802	9, 350	8, 500	10, 700	10, 300	—
11 – 20 .....	1, 472	7, 950	7, 550	8, 150	8, 700	9, 800
1 – 10 .....	1, 783	6, 450	6, 200	6, 650	7, 050	—
Year Not Stated .....	6	—	—	—	—	—
<b>Total</b> .....	<b>4, 426</b>	<b>7, 500</b>	<b>7, 000</b>	<b>7, 850</b>	<b>8, 500</b>	<b>11, 450</b>



Table 28 — Median Annual Earnings by Industry by Level of Education  
and Years from Bachelor Graduation, 1960

SCIENTISTS

Level of Education and Industry	Total		Years from Bachelor Graduation					Year Not Stated
			Over 40	31 — 40	21 — 30	11 — 20	1 — 10	
	No.	\$	\$	\$	\$	\$	\$	\$
Bachelor's Degree								
Private Industry .....	1, 532	7, 500	—	11, 050	9, 750	8, 300	6, 550	—
Professional Service.....	112	7, 400	—	—	12, 200	7, 950	6, 550	—
Government .....	842	6, 450	—	7, 550	7, 350	6, 750	5, 800	—
Universities .....	52	6, 450	—	—	7, 300	7, 950	5, 550	—
Secondary Schools .....	379	7, 200	—	9, 450	8, 950	7, 550	5, 900	—
Industry Not Stated .....	16	6, 950	—	—	—	—	—	—
<b>Total .....</b>	<b>2, 933</b>	<b>7, 000</b>	<b>7, 800</b>	<b>9, 200</b>	<b>8, 600</b>	<b>7, 550</b>	<b>6, 250</b>	<b>—</b>
Master's or Doctor's Degree								
Private Industry .....	361	9, 750	—	14, 050	12, 050	9, 800	7, 700	—
Professional Service .....	94	10, 350	—	12, 950	15, 100	10, 000	7, 700	—
Government .....	603	7, 700	—	9, 650	8, 950	7, 800	6, 800	—
Universities.....	334	8, 950	—	10, 700	11, 350	8, 900	7, 250	—
Secondary Schools .....	96	8, 150	—	10, 100	9, 000	8, 250	5, 800	—
Industry Not Stated .....	5	—	—	—	—	—	—	—
<b>Total .....</b>	<b>1, 493</b>	<b>8, 550</b>	<b>11, 450</b>	<b>10, 450</b>	<b>10, 350</b>	<b>8, 700</b>	<b>7, 050</b>	<b>—</b>
<b>Total, All Levels .....</b>	<b>4, 426</b>	<b>7, 500</b>	<b>9, 450</b>	<b>9, 800</b>	<b>9, 350</b>	<b>7, 950</b>	<b>6, 450</b>	<b>—</b>

Table 29 – Median Annual Earnings by Region of Employment by Level of Education  
and Years from Bachelor Graduation, 1960

SCIENTISTS

Level of Education and Years from Bachelor Graduation	Total		Canada Total	Region of Employment					United States
				Atlantic	Quebec	Ontario	Prairies	Pacific	
	No.	\$	\$	\$	\$	\$	\$	\$	\$
Bachelor's Degree									
Over 40 .....	15	7,800	7,800	—	—	—	—	—	—
31 – 40 .....	167	9,200	9,200	9,950	8,300	9,400	8,950	8,950	—
21 – 30 .....	432	8,600	8,600	7,450	7,500	9,250	8,400	8,750	—
11 – 20 .....	963	7,600	7,550	6,450	7,950	7,850	7,350	7,400	8,950
1 – 10 .....	1,388	6,250	6,250	5,550	6,200	6,300	6,400	6,150	8,300
Year Not Stated .....	3	—	—	—	—	—	—	—	—
Total .....	2,968	7,050	7,000	6,300	6,900	7,300	7,050	6,800	8,750
Master's or Doctor's Degree									
Over 40 .....	19	11,450	11,450	—	—	—	—	—	—
31 – 40 .....	163	10,450	10,450	9,950	9,300	11,050	9,750	10,700	—
21 – 30 .....	380	10,400	10,350	7,950	9,850	10,550	10,350	9,550	—
11 – 20 .....	587	8,850	8,700	7,500	9,450	9,000	8,600	7,750	10,350
1 – 10 .....	464	7,100	7,050	6,550	7,250	7,250	7,050	6,500	8,800
Year Not Stated .....	3	—	—	—	—	—	—	—	—
Total .....	1,616	8,650	8,550	7,350	8,650	9,000	8,300	7,700	9,900
Total, All Levels .....	4,584	7,600	7,500	6,700	7,450	7,900	7,450	7,050	9,700

Table 30 — Median Annual Earnings by Undergraduate Course by Level of Education and Years from Bachelor Graduation, 1960

SCIENTISTS

UNDERGRADUATE COURSE	Total		LEVEL OF EDUCATION AND YEARS FROM BACHELOR GRADUATION:													
			BACHELOR'S DEGREE								MASTER'S OR DOCTOR'S DEGREE					
			Total all Years	Over 40	31 — 40	21 — 30	11 — 20	1 — 10	Year Not Stated	Total all Years	Over 40	31 — 40	21 — 30	11 — 20	1 — 10	Year Not Stated
	No.	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	
Agriculture .....	1,378	6,850	6,600	—	7,350	7,450	6,950	5,900	—	7,550	—	8,800	8,350	7,800	6,500	—
Biology .....	195	7,450	6,350	—	—	—	7,950	5,550	—	7,800	—	11,950	10,200	7,800	6,350	—
Chemistry .....	731	8,550	7,800	—	10,950	9,700	8,300	6,400	—	8,650	—	10,800	11,050	9,750	7,450	—
Forestry.....	437	7,100	6,950	—	11,450	9,300	7,400	6,400	—	7,500	—	—	12,450	7,500	6,800	—
General Science .....	677	7,000	6,650	—	—	8,600	7,600	6,150	—	8,700	—	11,950	9,550	8,500	6,850	—
Geology .....	284	8,650	8,100	—	—	12,600	9,500	7,400	—	9,100	—	12,950	15,250	9,300	7,350	—
Mathematics .....	98	8,150	7,250	—	—	8,550	7,950	6,250	—	9,300	—	—	10,450	9,350	8,100	—
Mathematics and Physics .....	296	9,000	8,850	—	9,800	9,600	8,950	7,300	—	9,100	—	9,950	10,800	9,350	7,600	—
Physics .....	130	8,500	7,850	—	—	—	8,300	6,950	—	9,000	—	—	11,950	9,400	7,800	—
Other Sciences .....	200	8,500	8,000	—	—	10,450	8,100	7,150	—	9,000	—	—	11,100	8,900	7,700	—
Total .....	4,426	7,500	7,000	8,100	9,150	8,600	7,550	6,250	—	8,550	11,450	10,450	10,350	8,700	7,050	—

Table 31 — Median Annual Earnings by Work Function by Level of Education and Years from Bachelor Graduation, 1960

SCIENTISTS

LEVEL OF EDUCATION AND YEARS FROM BACHELOR GRADUATION	WORK FUNCTION												
	Total		Construction, Installation, Erection	Design	Executive, Administrative	Field Exploration	Production, Operation, Maintenance	Research, Development	Sales, Service, Marketing, Purchasing	Teaching, Instruction, Extension Work	Testing, Inspection, Laboratory Services	Other	Function Not Stated
	No.	\$											
Bachelor's Degree													
Over 40 .....	15	7,800	—	—	—	—	7,950	7,450	—	8,950	—	—	—
31 — 40 .....	168	9,200	—	—	10,700	—	9,050	8,200	—	8,400	—	7,700	—
21 — 30 .....	431	8,600	—	—	10,750	—	9,050	7,400	9,050	7,100	7,150	7,150	—
11 — 20 .....	946	7,550	7,700	6,950	8,750	9,250	8,000	7,400	7,850	7,100	6,700	6,850	—
1 — 10 .....	1,370	6,250	6,450	6,950	7,050	6,650	6,550	5,900	6,450	5,800	5,750	5,850	6,550
Year Not Stated .....	3	—	—	—	—	—	—	—	—	—	—	—	—
Total .....	2,933	7,000	7,450	7,150	8,700	6,900	7,100	6,650	7,050	6,700	6,300	6,350	6,550
Master's or Doctor's Degree													
Over 40 .....	19	11,450	—	—	—	—	—	—	—	—	—	—	—
31 — 40 .....	161	10,450	—	—	14,050	—	—	10,000	—	9,850	—	—	—
21 — 30 .....	371	10,350	—	—	12,250	—	9,450	10,000	—	9,750	—	8,100	—
11 — 20 .....	526	8,700	—	—	10,200	8,700	8,650	8,650	8,700	8,550	7,600	9,600	—
1 — 10 .....	413	7,050	—	—	7,200	7,400	—	7,200	6,800	6,750	5,950	7,050	—
Year Not Stated .....	3	—	—	—	—	—	—	—	—	—	—	—	—
Total .....	1,493	8,550	—	9,450	11,500	8,250	8,650	8,100	8,450	8,500	6,800	7,900	—
Total, All Levels .....	4,426	7,500	6,950	7,400	9,400	7,300	7,300	7,600	7,200	7,350	6,400	6,650	6,700



Table 32 – Median and Quartile Annual Salary Rates by Level of Education  
and Year of Bachelor Graduation, 1961  
SCIENTISTS

Year of Bachelor Graduation	Total		Level of Education					
			BACHELOR'S DEGREE			MASTER'S OR DOCTOR'S DEGREE		
			First Quartile	Median	Third Quartile	First Quartile	Median	Third Quartile
	No.	\$	\$	\$	\$	\$	\$	\$
Before 1920...	31	9,300	6,300	7,100	9,050	9,450	10,950	12,450
1920 – 1924..	110	10,350	7,200	9,500	12,950	9,400	11,550	13,050
1925 – 1929..	202	9,800	7,400	9,300	11,550	8,550	10,450	13,600
1930 – 1934..	326	9,400	6,650	8,450	10,450	8,550	10,500	12,900
1935 – 1939..	449	9,550	7,300	8,800	10,900	8,400	10,550	12,600
1940 – 1944..	448	8,900	6,850	8,050	9,950	8,200	9,919	11,500
1945 – 1949..	904	7,850	6,400	7,550	9,000	7,350	8,550	9,900
1950 – 1954..	1,080	7,150	6,050	6,900	7,950	6,750	7,450	8,350
1955.....	129	6,450	5,600	6,400	7,150	5,750	6,650	7,450
1956.....	120	6,200	5,450	6,150	6,750	5,800	6,350	6,850
1957.....	140	5,600	5,100	5,600	6,300	5,000	5,550	6,250
1958.....	140	5,350	4,800	5,350	5,850	4,950	5,350	5,750
1959.....	154	5,100	4,400	5,100	5,650	—	—	—
Not Stated .....	6	—	—	—	—	—	—	—
<b>Total .....</b>	<b>4,239(1)</b>	<b>7,600</b>	<b>5,900</b>	<b>7,050</b>	<b>8,750</b>	<b>7,250</b>	<b>8,800</b>	<b>10,800</b>

(1) Tables 32–36 do not include a total of 869 respondents, consisting of 328 self-employed; 19 unemployed and 522 who did not answer the question. Those working on salary plus commission were not required to answer.

Table 33 – Median Annual Salary Rates by Industry by Level of Education  
and Year of Bachelor Graduation, 1961

SCIENTISTS

Level of Education and Industry	Total		Year of Bachelor Graduation					Not Stated
			Before 1920	1920–29	1930–39	1940–49	1950–59	
	No.	\$	\$	\$	\$	\$	\$	\$
Bachelor's Degree								
Private Industry .....	1, 295	7, 600	—	11, 950	9, 900	8, 500	6, 650	—
Professional Service .....	74	6, 900	—	—	—	8, 050	6, 400	—
Government .....	883	6, 550	7, 300	7, 600	7, 450	6, 900	5, 900	—
Universities .....	58	6, 100	—	—	—	7, 950	5, 050	—
Secondary Schools .....	423	7, 200	—	9, 700	9, 200	7, 800	5, 950	—
Industry Not Stated .....	8	—	—	—	—	—	—	—
<b>Total</b> .....	2, 741	7, 050	7, 100	9, 400	8, 700	7, 700	6, 250	—
Master's or Doctor's Degree								
Private Industry .....	338	9, 650	—	12, 700	12, 700	10, 050	7, 750	—
Professional Service .....	67	10, 150	—	—	13, 550	10, 150	7, 700	—
Government .....	639	7, 800	—	9, 800	9, 350	7, 900	7, 000	—
Universities .....	352	9, 250	—	11, 950	11, 550	9, 250	7, 300	—
Secondary Schools .....	97	8, 500	—	10, 100	9, 350	8, 800	6, 450	—
Industry Not Stated .....	5	—	—	—	—	—	—	—
<b>Total</b> .....	1, 498	8, 800	10, 950	10, 950	10, 550	9, 050	7, 250	—
<b>Total, All Levels</b> .....	4, 239	7, 600	9, 300	9, 950	9, 500	8, 150	6, 500	—

Table 34 — Median Annual Salary Rates by Region of Employment by Level of Education  
and Year of Bachelor Graduation, 1961

SCIENTISTS

Level of Education and Year of Bachelor Graduation	Total		Canada Total	Region of Employment					United States
				Atlantic	Quebec	Ontario	Prairies	Pacific	
	No.	\$	\$	\$	\$	\$	\$	\$	\$
Bachelor's Degree									
Before 1920 .....	15	7,100	7,100	—	—	—	—	—	—
1920 — 29 .....	157	9,350	9,350	10,950	8,450	9,750	8,700	8,200	—
1930 — 39 .....	412	8,700	8,700	7,350	8,150	9,450	8,250	8,750	—
1940 — 49 .....	845	7,700	7,700	6,500	8,200	7,950	7,550	7,600	—
1950 — 59 .....	1,342	6,300	6,250	5,550	6,300	6,350	6,350	6,150	8,700
Year Not Stated .....	3	—	—	—	—	—	—	—	8,200
Total .....	2,774	7,050	7,050	6,300	7,050	7,350	7,050	6,750	8,700
Master's or Doctor's Degree									
Before 1920 .....	16	10,950	10,950	—	—	—	—	—	—
1920 — 29 .....	159	11,050	10,950	8,950	9,800	11,500	9,950	12,100	—
1930 — 39 .....	375	10,550	10,550	7,950	10,450	10,850	10,200	9,350	12,450
1940 — 49 .....	581	9,200	9,050	7,650	9,700	9,250	9,100	7,850	10,700
1950 — 59 .....	494	7,350	7,250	7,100	7,150	7,350	7,250	6,900	8,950
Year Not Stated .....	3	—	—	—	—	—	—	—	—
Total .....	1,628	8,900	8,750	7,550	9,100	9,200	8,600	7,800	10,050
Total, All Levels .....	4,402	7,650	7,600	6,750	7,600	7,950	7,500	7,150	9,750

Table 35 — Median Annual Salary Rates by Undergraduate Course by Level of Education and Year of Bachelor Graduation, 1961

SCIENTISTS

LEVEL OF EDUCATION AND YEAR OF BACHELOR GRADUATION																
UNDERGRADUATE COURSE	Total		BACHELOR'S DEGREE						MASTER'S OR DOCTOR'S DEGREE							
			Total all Years	Before 1920	1920-29	1930-39	1940-49	1950-59	Year Not Stated	Total all Years	Before 1920	1920-29	1930-39	1940-49	1950-59	Year Not Stated
	No.	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Agriculture .....	1,273	6,950	6,650	-	7,600	7,500	7,050	6,000	-	7,650	-	9,250	8,750	7,850	6,650	-
Biology .....	201	7,600	6,550	-	-	-	9,100	5,600	-	7,850	-	12,350	11,250	7,900	6,800	-
Chemistry .....	693	8,650	7,800	-	12,300	9,300	8,450	6,600	-	9,800	-	10,850	11,450	10,150	7,700	-
Forestry .....	413	7,150	7,000	-	10,950	10,450	7,550	6,500	-	7,600	-	-	-	7,650	7,000	-
General Science .....	681	6,700	6,600	-	9,600	8,800	7,950	5,950	-	8,900	-	11,450	10,050	8,600	7,000	-
Geology .....	275	8,500	8,150	-	-	10,450	9,350	7,400	-	9,000	-	12,450	13,450	9,400	7,400	-
Mathematics .....	97	8,000	7,450	-	-	9,300	8,200	6,450	-	9,200	-	-	9,950	9,600	-	-
Mathematics and Physics .....	287	9,350	9,050	-	9,800	9,800	9,300	7,400	-	9,450	-	10,300	10,800	9,600	7,800	-
Physics .....	132	8,800	8,100	-	-	-	8,950	6,600	-	9,350	-	-	-	9,600	7,800	-
Other Sciences .....	187	8,750	8,100	-	-	10,300	7,850	7,200	-	9,300	-	-	10,450	9,350	7,900	-
Total .....	4,239	7,600	7,050	7,100	9,400	8,700	7,700	6,250	-	8,800	10,950	10,950	10,550	9,100	7,250	-



Table 36 — Median Annual Salary Rates by Work Function by Level of Education and Year of Bachelor Graduation, 1961

SCIENTISTS														
LEVEL OF EDUCATION AND YEAR OF BACHELOR GRADUATION	WORK FUNCTION													
	Total		Construction, Installation, Erection	Design	Executive, Administrative	Field Exploration	Production, Operation, Maintenance	Research, Development	Sales, Service, Marketing, Purchasing	Teaching, Instructing, Extension Work	Testing, Inspection, Laboratory Services	Other	Function Not Stated	
	No.	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	
Bachelor's Degree														
Before 1920 .....	15	7,100	—	—	—	—	—	—	—	8,950	—	—	—	
1920 — 29 .....	158	9,400	—	—	10,900	—	—	7,650	—	9,300	—	7,450	—	
1930 — 39 .....	411	8,700	—	—	11,050	—	10,250	8,050	9,050	8,650	7,000	6,950	—	
1940 — 49 .....	830	7,700	7,700	7,300	8,550	9,250	8,450	7,600	8,050	7,250	6,750	7,050	—	
1950 — 59 .....	1,324	6,250	5,550	6,850	7,050	6,550	6,600	6,150	6,400	5,900	5,850	6,050	6,700	
Year Not Stated .....	3	—	—	—	—	—	—	—	—	—	—	—	—	
Total .....	2,741	7,050	6,750	7,150	8,550	6,750	7,450	6,900	6,950	6,750	6,300	6,450	6,550	
Master's or Doctor's Degree														
Before 1920 .....	16	10,950	—	—	12,950	—	—	—	—	11,200	—	—	—	
1920 — 29 .....	154	10,950	—	—	13,800	—	—	10,800	—	10,400	—	—	—	
1930 — 39 .....	364	10,550	—	—	12,750	12,600	9,600	9,850	—	10,300	7,800	9,250	—	
1940 — 49 .....	522	9,050	—	—	10,550	8,700	9,050	9,100	—	9,050	7,450	7,950	—	
1950 — 59 .....	439	7,250	—	—	7,400	7,600	—	7,300	—	7,150	5,850	7,150	—	
Year Not Stated .....	3	—	—	—	—	—	—	—	—	—	—	—	—	
Total .....	1,498	8,800	—	6,700	12,100	7,900	9,100	8,250	8,950	8,800	6,950	7,900	—	
Total, All Years .....	4,239	7,600	6,650	7,250	9,250	7,350	7,650	7,200	7,100	7,450	6,400	6,700	6,700	

**Appendix – Distribution of Scientific and Technical Personnel**  
**Register by Undergraduate Course<sup>1</sup>**  
**June 1961**

UNDERGRADUATE COURSE	Number	Per Cent	
		Group Total	Grand Total
Agriculture .....	7,955	—	9.7
Architecture .....	2,265	—	2.8
Engineering			
Aeronautical .....	351	0.7	
Agricultural .....	203	0.4	
Chemical .....	5,722	11.8	
Civil .....	11,968	24.7	
Electrical .....	9,485	19.6	
Engineering and Business .....	561	1.2	
Engineering Physics .....	1,343	2.8	
General .....	70	0.1	
Geological .....	733	1.5	
Mechanical .....	9,990	20.6	
Metallurgical .....	1,269	2.6	
Mining .....	2,740	5.7	
Petroleum .....	332	0.7	
Other <sup>2</sup> .....	1,062	2.2	
Non-graduates <sup>3</sup> .....	2,647	5.4	
Total, Engineering .....	48,476	100.0	59.0
Forestry <sup>4</sup> .....	2,665	—	3.2
Science			
Bacteriology .....	156	0.8	
Biochemistry .....	356	1.9	
Biology .....	980	5.3	
Botany .....	129	0.7	
Chemistry .....	4,362	23.4	
Chemistry and Physics .....	418	2.2	
General Science .....	6,003	32.1	
Geography .....	280	1.5	
Geology .....	1,712	9.2	
Mathematics .....	751	4.0	
Mathematics and Physics .....	1,769	9.5	
Metallurgy .....	52	0.3	
Physics .....	986	5.3	
Zoology .....	333	1.8	
Other <sup>5</sup> .....	377	2.0	
Total, Science .....	18,664	100.0	22.7
Veterinary Medicine .....	1,838	—	2.2
Other <sup>6</sup> .....	282	—	0.4
<b>Grand Total (All Courses)</b>	<b>82,145<sup>7</sup></b>	<b>—</b>	<b>100.0</b>

<sup>1</sup>The above figures are based on a hand count made during the week ending June 9, 1961 of individual files in the scientific and technical personnel register maintained by the Department of Labour, Ottawa, Canada.

<sup>2</sup>Includes electro-mechanical and those who did not give a specific course.

<sup>3</sup>Passed qualifying examinations of provincial professional engineering associations.

<sup>4</sup>Includes forest engineering.

<sup>5</sup>Includes various combinations of honour courses.

<sup>6</sup>Includes 195 non-graduate members of scientific associations and 87 persons who began their technical studies at the graduate level.

<sup>7</sup>Includes 1,164 classified as "retired" and 426 as "housewives". The remainder were reported as in the labour force. The 1961 graduates are not shown in the above figures.











